

Depreciated Currency
and
Diminished Railway Rates

AN INQUIRY

CONDUCTED BY THE **RAILWAY WORLD** FOR THE PURPOSE OF
ASCERTAINING THE OPINIONS OF LEADING ECONOMISTS
AND PUBLICISTS CONCERNING THE PROPRIETY OF
AN ADJUSTMENT OF RAILWAY RATES TO THE
DIMINISHED VALUE OF THE MONEY IN
WHICH THEY ARE PAID.

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Railway World

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*The concluding question on the circular of inquiry was "May we publish your reply?" This pamphlet includes every reply in which this question was not answered in the negative and every reply published is given in full and without revision.

WHY THIS INQUIRY WAS UNDERTAKEN.

During the summer of 1908 the daily press gave currency to rumors that the railways of the United States were considering a general revision of their schedules of freight rates with a view to obtaining increased revenue. Accompanying these reports were statements that the augmented cost of conducting the business of supplying railway transportation had made increased revenue absolutely necessary if wages were to be maintained at the existing level and interest obligations met. It was alleged that railway labor was costing vastly more than formerly, that locomotives, cars, rails, fuel, supplies and materials of all kinds, had increased greatly in cost and that while these changes had been in progress railway rates had remained substantially stationary or had, upon the average, declined.

The meaning of these statements, if they could be accepted as accurate, was clearly that there had been a material decline in the value of the money received by the railways which, not having been offset by a corresponding increase in the sums received for particular services, amounted to a genuine decline in railway rates. Further, it was plain, that if such a decline had taken place and had proceeded so far as to endanger the current wages of railway employees or to render doubtful the ability to earn interest on bonds or a fair return to investors, the employees of the railways and owners of railway property were justly entitled to such nominal increases in rates as would, in part at least, offset the real reductions. Such advances would be "nominal," only, for though having the form and appearance of advances they would in reality constitute nothing more than a partial readjustment in view of

the changed value of standard money. They would but partially restore the old and accepted relation between railway charges and wages and prices.

Manifestly the real question, the only open question, was whether the suggestions made in behalf of the proposed revision were correct statements of actual facts of current industrial life. This question the RAILWAY WORLD determined to submit to the leading economists and publicists of the United States and to that end a series of questions were carefully formulated and a circular embracing them, together with some explanation of the purpose in view, was sent to each member upon the last published list of the American Economic Association. The entire number of circulars of inquiry sent out was 1,006 and 103 replies were received of which 77 included permission to publish. The quality of most of the replies submitted by those who gave the desired permission as to publication as well as the high authority of those by whom they were prepared has made their publication, in full, seem desirable. The very few in the following pages which fall obviously below the general level of excellence are included with the others in order to avoid the necessity of setting up any standard of selection.

In submitting this pamphlet the RAILWAY WORLD wishes to express its especial gratitude to each of those whose attention to its circular and generous permission to publish have made it possible. The editors are also indebted to many whose replies cannot be included, because such permission was withheld, for courteous and valuable suggestions. Thanks are also expressed for a number of letters containing much of value and interest which, however, not being addressed directly to any of the inquiries of the circular, would not sufficiently illuminate the inquiry to warrant the expansion of this publication that their inclusion would entail.

TEXT OF THE CIRCULAR OF INQUIRY.

The circular of inquiry was dated at Philadelphia, Pennsylvania, as of September 14, 1908, and signed by the RAILWAY WORLD. The full text of this circular was as follows:

Your attention to the inquiry herewith propounded and the courtesy of as prompt and complete a response as your convenience will permit is respectfully solicited.

The inquiry is a serious one, intended to serve a serious purpose, viz., that of aiding to determine the policy of this newspaper upon a matter of grave importance and of supplying material and guidance for its public discussion.

If we are favored with a response, no portion thereof will be made public without your consent, but we should be especially pleased to receive such consent.

A letter identical with this is being addressed to each of a large number of economists and publicists, for it is believed that the nature of the problem is such that the views of trained observers of industrial phenomena are particularly certain to influence the formation of a wise public sentiment.

THE PROBLEM.

The statement has been made that, on account of recent rapid augmentation of the world's gold supply,* or from other causes, gold has depreciated in value and hence the standard dollar of the United States is now of less value, i. e., has smaller purchasing power, than formerly, (say) from 1890 to 1899. Further, it has been stated, that as a consequence of this fall in the value of the dollar, those wages, prices and rates which have not been adjusted to the changed value of the standard by fully compensatory changes in their relation to the unit of value are really lower than formerly, although it may happen that they are now expressed, in terms of that unit, by somewhat higher figures.

*The annual report of the Bureau of the Mint for the year 1906 gives estimates of the world's yearly production of gold (see page 36) from which the following figures for each quinquennial period from 1862--66 to 1902-06 have been obtained:

Years.	Fine ounces.	Value.
1902-1906	84,646,918	\$1,749,807,300
1897-1901	65,076,311	1,345,246,700
1892-1896	42,876,543	886,337,100
1887-1891	28,490,926	588,959,700
1882-1886	24,851,094	513,717,700
1877-1881	26,668,106	551,278,700
1872-1876	24,367,771	503,727,000
1867-1871	30,671,358	634,033,000
1862-1866	30,068,414	621,570,000

Especially as to railway rates, it is urged by some, that they have not, since (say) 1897, been adjusted to this depreciation of the standard money in which they are expressed and paid and that, in spite of attempts here and there at such an adjustment, the generally lower purchasing power of the sums received for railway services is equivalent to a very substantial reduction in the charges for all, or nearly all, of the services rendered.

AUTHORITIES FOR THIS VIEW.

The following concise statement has been made by President A. T. Hadley, of Yale University:

"It seems also clear that the average increase in rates is apparent only and not real. If the price of goods carried and wages of railroad laborers and the cost of materials of railroad construction and operation have increased from ten to forty per cent., an increase of apparent charge of five per cent. on the part of the railroads is virtually a tremendous and gratifying decrease."—*President Hadley in Boston Transcript of April 1, 1905.*

In the admirable essay, which received the first prize in the Hart, Schaffner and Marx contest in the year 1906, Dr. Albert N. Merritt expressed the same view in greater detail, saying, in part:

"At the same time, coupled with the general prosperity which has attended the increased amount of business done has come a considerable rise in the prices of nearly all commodities, while there has occurred also a considerable advance in the rate of wages. For these reasons the cost of operation upon our railroads has been greatly increased.

"Whatever the cause, the fact of this rise in the price of services and commodities is incontestable. In other words, a smaller quantity of labor and materials can be purchased with a given amount of gold coin to-day than could be purchased six years ago.

"But a general advance in the prices of commodities according to another way of stating the same fact, is only a relative decline in the value of that standard in which prices are measured. When measured in the amount of commodities and services which it will buy, gold has therefore declined about 25 per cent. in value since the period of 1895-1899. Would it then be unreasonable to expect that gold, being less valuable for the purchase of commodities and labor, should also be less valuable in the purchase of transportation? What are the facts? If we take similar periods for the computation of average railway rates, we find that there has been no advance whatever, the average rate for the first period, 1895-1899, being 7.84 mills per ton-mile, while that of 1904 was only 7.80 mills per ton-mile. Thus while average

prices have advanced 25 per cent. there has actually been a slight decline in average railway rates.

"An important distinction is here to be indicated which is not often recognized. There are two sorts of rates, which may be designated respectively as nominal and real. Nominal rates are measured in money,* while real rates consist of a percentage of the value of the commodities transported. To determine the real rate, that proportion of the value of the goods transported, which must be given for the services of transportation, must be ascertained.

"This distinction may at first seem useless, and the method of computing real rates certainly refuses to lend itself to exact statistical analysis. Nevertheless, real rates, such as described are the only proper measure of the relative burden of the transportation charges upon the industries of our country. Obviously it is of little concern to the producer just what may be his absolute money income and expenditure. That which is of especial interest to him is his relative income and his outlay. It is, therefore the proportion of the value of his wheat which must be paid for its transportation that determines the real burden of the transportation charge upon him. On the other hand it is the amount of labor and materials which the money received for transportation will buy which is of interest to the railroad in determining whether or not it can derive a profit from the rates charged. If now real rates are accepted as the proper basis for determining the course of rates in this country the whole situation assumes an entirely different aspect. . . . In

*Mr. H. T. Newcomb has urged this distinction in numerous articles. The following was published on January 1, 1904. (See *The Railway Age* of that date): "Railway charges, like wages and the prices of commodities, are measured in money and paid in money. The wage-earner, however, cannot eat money nor wear it nor shelter himself beneath it. He values it for what it will buy, and his wages are worth to him precisely what they will buy, no more and no less. If at one time he earns two dollars per day he is as well off as on four dollars per day with prices all doubled. It is the same with the seller of goods. If what he has to pay for rents, fuel, clothing household expenses and amusements double he is no better off because he gets one-fourth more for each article he sells. It is precisely the same with the railway, with its employees and with the holders of its securities. If the wages of railway employees, the cost of fuel, rails, ties, rolling stock, etc., have advanced, the railways are better or worse off in proportion as the increase in money (nominal) rates has exceeded or fallen short of the enhanced cost of services and supplies. Everyone knows that wages and prices have largely increased during recent years. Nearly everyone knows that they have, in most cases, gone upward faster and further than railway rates."—*The Work of the Interstate Commerce Commission, Gibson Brothers, Washington, D. C., 1905. See also Railway Age of August 12, 1904.*

other words, real rates have declined 25 per cent in less than ten years."†

WAGES STATISTICS.

The annual reports of Statistics of Railways in the United States compiled by the Interstate Commerce Commission, under the direction of Prof. Henry C. Adams, head of the Department of Political Economy in the University of Michigan, and Statistician to the Commission, indicate the extent of the depreciation of the unit of value in relation to the wages of railway labor. The following figures are from the reports for 1897 and 1907:

Class of employees.	1897.	1907.	Per cent increase.
Station agents	\$1.73	\$2.05	18.50
Other station men	1.62	1.78	9.88
Enginemen	3.65	4.30	17.81
Firemen	2.05	2.54	23.90
Conductors	3.07	3.69	20.20
Other trainmen	1.90	2.54	33.68
Machinists	2.23	2.87	28.70
Carpenters	2.01	2.40	19.40
Other shopmen	1.71	2.06	20.47
Section foreman	1.70	1.90	11.76
Other trackmen	1.16	1.46	25.86
Switchmen, flagmen, watchmen	1.72	1.87	8.72
Telegraph operators and despatchers .	1.90	2.26	18.95
Employees, account floating equipment	1.86	2.27	22.04
All other employees and laborers ...	1.64	1.92	17.07

STATISTICS OF PRICES.

Bulletin No. 75, of the United States Bureau of Labor, shows average prices for the following articles used by railways, or, as raw materials, for the manufacture of railway supplies:

Articles.	Unit.	1897.	1907.	Per cent. Increase.
Coal, anthracite, broken	Ton	\$ 3.25	\$ 4.20	29.23
Coal, bituminous, Georges Creek	Ton	.83	1.54	85.54
Axes, M. C. O. Yankee	Each	.39	.68	74.36
Coke, Connellsville, furnace.....	Ton	1.62	2.83	74.69
Bar iron, best refined from mill	Pound	.011	.0175	59.09
Barbed wire, galvanized	Cwt.	1.80	2.63	46.11
Copper wire, bare	Pound	.1375	.2402	74.69
Doorknobs, steel, bronze, plated.....	Pair	.166	.450	171.08
Files, 8-inch	Dozen	.81	1.00	23.46
Hammers, Magdole No. 1½.....	Each	.38	.47	23.68
Lead pipe	Cwt.	4.32	6.71	55.32
Locks, common, mortise	Each	.0833	.20	140.10

†Albert N. Merritt, Federal Regulation of Railway Rates, Houghton, Mifflin and Company, Boston and New York, 1907, pp. 7-10.

Nails, cut, 8-penny, fence and common	Cwt.	1.33	2.16	62.41
Nails, wire, 8-penny, fence and common	Cwt.	1.49	2.12	42.28
Pig iron, Bessemer	Ton	10.13	22.84	125.47
Pig iron, foundry No. 1	Ton	12.10	23.90	97.52
Pig iron, foundry No. 2	Ton	10.10	23.87	136.34
Pig iron, gray forge, southern, coke	Ton	8.80	20.99	138.52
Steel billets	Ton	15.08	29.25	93.97
Steel rails	Ton	18.75	28.00	49.33
Steel sheets, black No. 27	Pound	0.019	0.025	31.58
Tin, pig	Pound	.1358	.3875	185.35
Tin, plates, domestic, Bessemer, coke	Cwt.	3.18	4.09	28.62
Zinc, sheet	Cwt.	4.94	7.49	51.62
Brick, common, domestic	M	4.94	6.16	24.70
Cement, Rosendale	Bble.	.75	.95	26.67
Doors, pine	Each	.81	1.88	132.10
Lumber, hemlock	M feet	11.00	22.25	102.27
Lime, common	Bbl.	.72	.95	31.94
Linseed oil, raw	Gal.	.33	.43	30.30
Lumber, maple, hard	M feet	26.50	32.25	21.70
Lumber, oak, white, plain	M feet	36.25	55.21	52.30
Lumber, oak, white, quartered	M feet	53.83	80.00	43.62
Lumber, pine, yellow	M feet	16.44	30.50	85.52
Lumber, poplar	M feet	30.67	58.08	89.37
Shingles, cypress	M	2.35	4.23	80.00
Lumber, spruce	M feet	14.00	24.00	71.43
Window glass, American, single, firsts, 6 by 8 to 10 by 15 inch	50 sq. ft.	2.20	2.81	27.73
Window glass, American, single, thirds, 6 by 8 to 10 by 15 inch	50 sq. ft.	1.96	2.24	14.29

The bulletin indicates that putty, Portland cement and Ames shovels are the only exceptions to the general rule of greatly increased prices of railway supplies.

The same official bulletin gives the following index numbers for "all commodities" showing the relation of average prices for each year to the average for the ten years from 1890 to 1899, inclusive, thus indicating the real measure of the decline in the value of the dollar:

Years.	Index numbers.	Years.	Index numbers.
1897	89.7	1903	113.6
1898	93.4	1904	113.0
1899	101.7	1905	115.9
1900	110.5	1906	122.5
1901	108.5	1907	129.5
1902	112.9		

We have thus fully stated the problem and repeated arguments and information with which you are, of course, fully conversant, in order that you may not fail to have before you sufficient facts to make our queries particularly clear. May we now ask your attention to the following specific inquiries?

OUR QUESTIONS.

1. Are there, in fact and in actual practice, such distinctions between (a) nominal wages and real wages; (b) nominal prices and real prices, and (c) nominal railway rates and real railway rates as the foregoing quotations suggest?

2. If there is such a distinction between nominal and real railway rates, is it important, and what is the extent of its importance?

3. Has the American dollar depreciated since 1897

4. If the American dollar has depreciated since 1897, approximately what percentage of its value in that year has it lost?

5. What effect has this depreciation of the American dollar (if it has depreciated) produced as to wages or prices which have not been fully adjusted to the diminished value of the standard?

6. Were the freight rates charged by the railways of the United States in the year 1897, in your opinion, generally too high?

7. Assuming that \$1.35 will pay for only as much labor or railway employees and as much railway equipment, fuel and other materials as \$1.00 would buy in 1897 and that nominal railway rates had been so adjusted that it required \$1.10 to pay for railway service that \$1.00 paid for in 1897, would the comparison between real railway rates at the different times show an advance or a reduction?

8. May we publish your reply?

We repeat these questions upon a separate sheet, enclosed herewith, and also have pleasure in enclosing a stamped and addressed envelope for your reply.

Trusting that you will favor us with your views upon these questions, and any pertinent suggestions which you may wish to make, and assuring you in advance of our appreciation of your assistance, we remain,

LIST OF THOSE WHOSE ANSWERS ARE PUBLISHED.

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ANSWERS TO THE FIRST QUESTION.*

"I think that there are such distinctions, but that the use of two words 'nominal' and 'real' does not help to clear them up. The problem is simply:—are railroad rates now, in view of the prevailing prices of railway labor and railway supplies, sufficient to yield the railways reasonable profits. I do not believe, on the whole, that your present quotations will throw much light on this subject. They simply put the principal problem back a few years—to 1897, as I interpret your questions. If we agree that the prices of railway labor and supplies have increased more rapidly than railroad rates, since 1897, we know nothing until it is decided whether rates in 1897 were or were not more than enough to yield reasonable profits in 1897."—T. S. ADAMS.

"There is no doubt in my mind that underlying the whole process of modern exchange is the distinction between money prices and what we may call real prices. This distinction is applicable to railway rates as it is to wages or the prices of commodities in the market. Whether the real railway rate is a percentage of value so that the real rate varies directly with the price of commodities transported or whether it is something else, I am not prepared to say. Certain it is that the actual rate means *variable* returns to the railroads."—EUGENE E. AGGER.

*The first question was: "Are there in fact and in actual practice, such distinctions between (a) nominal wages and real wages, (b) nominal prices and real prices, and (c) nominal railway rates and real railway rates, as the quotations in our letter of inquiry suggest?"

"Yes—the present nominal wages, prices and railway rates if paid in silver under unlimited coinage would be 'nominally' the same but not really the same. President Hadley is right."—W. F. ALLEN.

"Yes, undoubtedly."—E. BENJAMIN ANDREWS.

"There is undoubtedly a sharp distinction between 'real' and 'nominal' wages, prices and railway rates to be taken into account in comparisons of their relative height at different times and places."—C. C. ARBUTHNOT.

"This is the point that I have been hammering on for years. Four years ago in a discussion of the question of freight rates regulation with one of the vice-presidents of the Pennsylvania Railroad, after he had raised the point that they were contented to have matters go on as they were rather than adopt the plan urged on his attention, though he admitted that it was workable, I brought up the point that under the present system freight rates would soon become crystallized under a series of judicial rulings granting virtually vested rights to established rates to all shippers, and that if they could not raise them, they would eventually become bankrupt owing to the depression of gold, of which ever smaller proportions of the production are used in the arts, and a greater proportion is coined."—N. T. BACON.

"Since exchange is the sole criterion of value, or of price, there cannot be a difference between *nominal* and *real* wages or prices.

"Nominal rates, or indeed, any values or prices are *never* measured in *money*. A hundred years ago they were measured in *silver*; now they are measured in *gold*, our unit of value, the *dollar* being a synonym of '23.22 grains of pure gold.' Not *money* but the *dollar* is that in

which values are measured. *Money* is our medium of exchange, *dollar* is a certain quantity of gold. If writers would not confound words and their meaning, there would be less need for controversy.”—HUGO BILGRAM.

“Yes, the following may be taken as general definitions:

“Nominal prices—Exchange value of commodity in dollars.

“Nominal wages—Exchange value of labor in dollars.

“Real wages—Exchange value of labor in commodities.

“Real prices—Exchange value of commodities in labor.

“The above gives general relations. The fact that labor is now more efficient in some cases must be taken into account. A new series of definitions and distinctions may be made by considering the labor product as a basis instead of labor.”—JOHN BALCH BLOOD.

“Yes, undoubtedly.”—JAMES E. BOYLE.

“Yes, I think there can be no question on this point. We must draw a clear distinction between the real and nominal whether or not the course be due to a depreciation of the standard, an appreciation of other commodities, or both.”—JOHN E. BRINDLEY.

“There are, undoubtedly, such distinctions.”—CHARLES J. BULLOCK.

“Yes.”—VICTOR S. CLARK.

“Yes.”—JOHN FRANKLIN CROWELL.

“Yes, except as to the ‘actual practice’ if this means the everyday thought and usage of the business world. In most business transactions the distinction is probably not recognized.”—F. R. CLOW.

"I think so. There is often great confusion of thought and misunderstanding due to the neglect of those very distinctions."—J. W. CROOK.

"(a) There is a distinction between nominal wages and real wages. In a recent case I tried relating to the rate question it was claimed by the railroad company that there had, *inter alia*, been an increase in wages of engineers. But an engineer on the line of its road testified that notwithstanding an increase nominally in his pay per hour, the size of engines and trains disables him from doubling back in a run of 110 miles and the haul had been increased from 450-600 tons per train to 1,400-2,000 tons. Rise in price of provisions, groceries and other things has also made the increase in wages in some respects more nominal than real.

"(b) I am of the opinion that there is a well-founded distinction between nominal and real prices.

"(c) I do not altogether understand what is meant by nominal railway rate as distinguished from real railway rate. I understand that in as far as a railway rate is proportioned to value, it can be capable of estimation as a burden on the disposition of the article, at a point other than the point of production. But rates are rarely made on the basis of what the article can bear, except when a foreign or distant market is to be thrown open to the articles or products of a given section of the country. In such cases, the rate is fixed with reference to the value of the commodity transported. But for the most part, I take it nominal rates obtain. And yet shippers constantly complain of these nominal rates because they are discriminative or unreasonable, and tend to put them out of business. So that nominal rates have some reference to value of the commodity. Nevertheless a comparison of the rates of the railroads, with the increased cost of maintaining them, and the increased price received for goods and services, is

most proper, in my opinion, in order to ascertain whether all conditions being considered, the railroads are getting what they are entitled to.”—MORRIS M. COHN.

“In my opinion, yes. Wages are to the average wage earner, what he can purchase with them. Wages of railway employees differ widely in different parts of the United States. The nominal difference, however, is considerably more than the real difference between the North and South, for example. A similar distinction though not always quite so clear, exists between nominal and real prices and nominal and real railway rates.”—F. S. CRUM.

“Yes.”—JOHN CUMMINGS.

“Undoubtedly: though, as a matter of phraseology, I dislike the expression ‘nominal prices.’ A price is a fact. What you mean by *nominal prices* is better called *relative prices*, in my opinion.”—W. M. DANIELS.

“Real as against nominal (money) wages point to the actual purchasing power of the wages as translated into the things for which the wages are commonly and generally expended; to talk of real as against nominal prices is terminological nonsense.

“‘Nominal’ railway rates can rightly mean nothing but these rates expressed in money; real railway rates must mean these rates as translated into general purchasing power over commodities in general. Unchanged real rates cannot, then, rightly indicate an unchanged ratio between the transportation charge and the market value of the goods transported, since the purchasing power expressed in the freight charge is not to be assumed—either accurately or approximately to be expended in those goods solely which are transported; labor

services in general, houses, fuel for railroad use, and a wide range of expenditure must disturb the acceptability for this formulation. Rather must the test of stability of rates be referred to the general principles of the tabular or multiple standard."—H. T. DAVENPORT.

"(a) There is a distinction between nominal and real wages.

"(b) The question is absurd. There is but one kind of prices.

"(c) I do not understand this."—DAVIS R. DEWEY.

"(a) Yes.

"(b) No. This is a contradiction of terms unless there are two kinds of money in use at the same time, as, for example, in a country using inconvertible paper money or silver when gold is the real standard. If you have in mind difference in price at different periods, this is an unhappy way of stating the matter. Which period shall we take as the real price period?

"(c) I cannot regard this as an accurate way of using terms having a perfectly definite meaning in the case of wages. Same criticism as under (b)."—CARROLL W. DOTEN.

"The distinction between nominal wages and real wages is well known to economists. For practical purposes it is well understood by those who work for wages and salaries. I have often heard it remarked that while wages had perhaps risen to some extent prices had advanced more rapidly still, thus leaving the wage earner poorer than before. Except in one or two books I have not seen the application extended to railway rates."—GARRETT DROPPERS.

"Yes, the distinction between nominal (money) wages and real wages has long been recognized. Variations in

the former do not necessarily imply variations in the latter. *Real* wages have not advanced as fast as *money* wages in the last ten years. In the free silver controversy, one of the best arguments addressed to workingmen was that however much their money wages might increase in the transition to a silver standard prices would advance still faster and that real wages would decrease synchronously with an increase in money wages. Something like this, I think, occurred during the greenback era. The distinction between nominal and real railway rates, is, I think, similar."—C. F. EMERICK.

"(a) Yes.

"(b) Yes.

"(c) Yes."—A. B. FAIRCHILD.

"This question should certainly be answered in the affirmative. The distinction applies to wages, prices and railway rates."—FRED R. FAIRCHILD.

"Yes."—IRVING FISHER.

"There are, undoubtedly, in fact and in practice, distinctions between nominal and real wages, prices and railway rates; but your circular is somewhat confused as to the principle of the distinction. The practically and humanly important distinctions are between the mere amounts of money received *in a given time* (not for a given amount of produce or transportation) by laborers and by manufacturing and railway capital and the general purchasing power of the money or nominal wages, prices or rates. Real wages depend upon the purchasing power of the money earned by the laborer and not upon the part of the value of the product paid to the laborer. Real railway rates are not to be ascertained by noting what part of the values of the goods transported must be paid for transpor-

tation. The important point to note in wages is how much the laborer earns in a day or year, not how much he gets per unit of output; and the important thing to note in transportation is how much the railway earns, not how much it charges for carrying a ton or a bushel.”—WILLARD C. FISHER.

“Yes—to all three.”—J. D. FORREST.

“Yes, without a doubt.

“Yes.

“Yes.”—A. G. FRANDENBURGH.

“Yes.”—GEORGE P. GARRISON.

“(a) Yes.

“(b) Yes.

“(c) Yes, though I should not accept Dr. Merritt’s definition of real rates as adequate.”—DAVID I. GREEN.

“There are doubtless such distinctions. In case of railway rates, however, the distinction might be called secondary, *i. e.*, it does not have to do *directly* with satisfaction or psychic income or consumers as is the case with laborers. Railway stockholders can hardly *realize* decreased ‘real railway rates’ until, as consumers, they run up against decrease, for instance, while a contemporaneous decrease in ‘real prices,’ or increase in real wages, might offset such a decrease.”—LEWIS H. HANEY.

“Yes, to all three divisions of this question.”—W. O. HART.

“Yes, disregarding economic friction and monopoly influences; real wages, commodity prices, and service rates tend to remain proportional; and nominal wages, prices

and rates, being functions of the former should also remain proportional."—R. H. HESS.

"Yes."—JOSEPH FRENCH JOHNSON.

"There are. The value of a dollar in the United States is practically the same thing as the purchasing power of 23 22-100 grains of pure gold, because that many grains of pure gold can readily be converted into a dollar. Alterations in the supply of gold relative to the demand result in alterations in the general price and wage levels. A man's wages are to be measured not by the number of dollars he receives, but by the purchasing power of those dollars."—E. W. KEMMERER.

"There is a distinction between nominal wages and real wages, nominal prices and real prices, nominal railway rates and real railway rates. Nominal wages, prices and rates are the money rate; real wages, prices and rates are the goods or means of satisfaction which the money will buy."—DAVID KINLEY.

"Yes, unquestionably."—M. A. KURSHEEDT.

"(a) Yes.

"(b) Yes.

"(c) Yes."—CHARLES H. LEEDS.

"There can be no question to my mind but that there are real and vital distinctions between nominal and real wages, prices and rates. I think, however, that for all practical purposes we may assume that the relation between nominal and real in each case is about the same."—W. H. LOUGH, JR.

"Of course the purchasing power of wages is different

from the nominal rate or price of labor as was clear during the Civil War."—ARTHUR T. LYMAN.

"There are, to be sure. A dollar is worth no more than it will buy in goods and services."—ROSWELL C. MCCREA.

"Yes, in all cases ; but in judging real and nominal railway rates changes in interest rates should also be considered for the cost of operating a railway includes fixed charges on its debt as much as labor and material."—JOHN MARTIN.

"Yes."—ROYAL MEEKER.

"Yes, certainly. The distinction between the apparent and the actual is of fundamental significance in the careful and thorough investigation of all subjects whatsoever. The great world, hasty and superficial, commonly rests content with the apparent."—CHARLES W. MIXTER.

"There is no distinction made between nominal and real wages, prices or railroad rates, nor can there be any distinction unless some past or future standard is set up with which to compare present rates. Even with this comparison before us, inasmuch as these rates are expressed in terms of money, the question resolves itself into a determination of whether or not the purchasing power of the dollar has increased or decreased. Wages, prices, railroad rates, and other things are subject to change according to conditions and these rates are *real* to-day and *nominal* as compared with yesterday or a year ago."—JAMES B. MORMAN.

"(a) There is in fact and actual practice a nominal wage and a real wage. In some classes of employment a high nominal wage does not necessarily mean a high real

wage. It is not uncommon to find corporations raise or lower the nominal wages of some of their employees according as they are employed at headquarters (without expenses) or on the road (with expenses). To the extent that many railroad employees are subject (from the general uncertainty of where their presence is required) to more expense than an ordinary clerk or salesman, their nominal wages might be expected to be a little higher. Adequate details on this distinction may, if desired, be found in 'Marshall's Principles, London, 1890, page 576, *et seq.*'

"(b) There is also in fact and practice a distinction between a nominal price and a real price. An increase in the supply of gold (a depreciated dollar) may be offset by a decrease in a marginal utility of the goods offered for sale, in which case, we would expect no change in the previous price.

"(c) The distinction between nominal railway rates and real railway rates referred to in the quotation from Dr. Merritt's essay, is confusing. Dr. Merritt's statement 'while real rates consist of a percentage of the *value* of the commodities *transported*' (italics mine) is different from his implication that 'real rates are the amount of labor and materials which the money received for transportation will buy.' American railways are primarily concerned in the transportation of *goods* and not *values* in the fixing of rates apart from the complementary question of the inclusion of insurance. Cost of transportation varies directly, or nearly so, with the material character of the goods, and as value depends on utility or cost of production, which has no relation to such material character, there is no relation between the cost of transportation and the value. For example, a rate based on the cost of transporting a ton of coal would not materially differ from one based on the *cost* of transporting a ton of copper; but if the rates were based on the *values* of the respective

commodities then indeed a great difference would appear. For this reason I can only accept the existence of real railway rates as 'the goods purchasable with the nominal (money) rates.'"—GEORGE S. MOYNAHAN.

"(a) There is such a distinction in the case of wages and it is fully recognized by most economists.

"(b) There is no such distinction in the case of prices for it is excluded by the definition of price as the relation between the value of a commodity and that of the unit of standard money. Price is the *nominal cost* of a commodity to a purchaser, *real cost* may be quite different.

"(c) As I have long urged, there is a distinction in the case of railway rates that is fully equivalent to that in the case of wages. Dr. Merritt recognizes the basic principle but fails to apply it logically.

"As to all the distinctions suggested in your inquiry, it is clear that there are two points of view from which real wages, real cost or real railway rates may be considered. In the case of wages, the term 'real wages' has, through the usage of economists, come to mean the purchasing power of the wages received when expended to supply the wants of the wage earner. Thus the study of real wages has been inseparable from the study of the budget of typical wage earners. Wages might have been considered, on the other hand, from the point of view of the employers, and in that case, the term 'real wages' might have come to mean the cost in the articles produced by the employer, of the labor of the wage earner. This is not precisely the thing intended by 'wages in kind' and a term which would express it might still be useful.

"As the term 'real railway rates' has acquired no definite meaning, and it can plainly be used either from the point of view of the purchaser or that of the seller of railway transportation, it is necessary when using it, to indicate which is meant. Real railway rates, from the point

of view of the traveller or shipper, must mean an expression of rates in terms of labor performed or the commodities produced in order to obtain the money to pay the nominal railway rates;—from the point of view of the carrier, however, the correct conception of real railway rates requires their expression in terms of the purchasing power of the nominal rates when expended for the ordinary requirements of railway corporations, that is, for labor, equipment, fuel or other materials and supplies, and as recompense for the use of capital invested in railways.”—H. T. NEWCOMB.

“The terms ‘*nominal and real wages*’ are very generally recognized, being based on the standard of living secured by a given service of labor; the terms ‘*nominal and real price and rates*’ have no such basis, since the standard of living of those who sell goods and those who charge railroad rates depends not on prices and rates, but on *profits*, *i. e.*, on the degree to which they can reduce their cost below the price or rates in the market.”—L. W. PARISH.

“Yes, most decidedly so.”—JULIUS H. PARMELEE.

“There are certainly such distinctions between nominal and real wages, prices and railway rates as indicated in your letter of inquiry. This fact is universally recognized by the economist. As far as I know there is no economist who opposes the idea. The fact is recognized by the business man and the laborer, as well as by the economist, in actual practice, consciously or unconsciously.”—WARREN M. PERSONS.

“Most certainly.”—CARL C. PLEHN.

“There are, of course, and while often very difficult to

determine they must always form the basis of our calculations."—JESSE E. POPE.

"Beyond question there are. No truth is better recognized."—H. H. POWERS.

"Yes."—L. G. POWERS.

"Money is a fluctuating standard, and a comparison of wages, prices and rates for any year with any other year, to be accurate, must take into account this fluctuation in money value."—LAWSON PURDY.

"Comparing the values of commodities purchased at different times for purposes of consumption as the standard there is no doubt a difference between real and nominal money wages."—H. W. QUAINANCE.

"Yes, and clear distinction must always be made between nominal wages and real wages, nominal prices and real prices, nominal railway rates and real railway rates."—CHARLES LEE RAPER.

"(a) There are undoubtedly such distinctions in fact; and even unschooled labor employees and comparatively unlearned laborers have to my knowledge adjusted differences under the mutually-accepted axiom that 'money is not worth as much in trade now as it was a few years ago.'

"(b) The same as (a).

"(c) Yes; even the land buyer in a new region calculates how much less a percentage of the Chicago price for grain and cattle will be left to him in case he keeps his old farm in Illinois."—WALTER T. RAY.

"Decidedly 'yes.' The very fact that while nominal

railway rates have increased and real railway rates have decreased proves that a very important distinction exists.”
GARDNER RICHARDSON.

“Assuredly such distinctions exist, but it is very difficult to trace accurately the curves of divergence between the nominal and the real scales, or to ascertain the distance between them at any time for a generic group of prices.”—PHILIP A. ROBINSON.

“(a) Yes.

“(b) ‘Real prices’ seems to me a misname but this is a matter of definition. Certainly gold prices have risen, while the ratios of exchange among commodities generally have changed but little.

“(c) I do not like this nomenclature either, but agree as to the reality of the distinction it refers to.”—HENRY R. SEAGER.

“I believe that the distinction between real and nominal wages and real and nominal value is a valid one.”—J. ALLEN SMITH.

“(a) Yes.

“(b) No.

“(c) Yes, if we agree to understand by nominal wages, prices and rates those expressed in terms of money, and by real wages, prices and rates those expressed in terms of all other commodities. It does not, however, necessarily follow that because there has been a general rise in prices that the intrinsic value of gold has depreciated. I do not believe in the quantity theory of money. While willing to admit that a sudden increase in the production of gold is apt to affect its purchasing power in terms of other commodities, I do not think that this can go on for any length of time, unless there is also a change in the

cost of production of the gold metal. The fact that prices of different commodities have not advanced to the same extent and that articles controlled by trusts or enjoying a natural monopoly have risen most in price, while prices of competitive articles have either not risen at all or greatly lagged behind, points to the presence of other causes than the depreciation of the intrinsic value of gold in this movement.”—N. I. STONE.

“(a) Yes.

“(b) Yes.

“(c) Yes.”—GEORGE S. SUMNER.

“Yes.”—FRANK J. SYMMES.

“(a) Unquestionably we must recognize a distinction between nominal and real wages. For instance, salaried men, receiving the same, or even twenty per cent. more salary, than in 1897, are finding that they can no longer command the same standard of living to-day as enjoyed ten years ago.

“I feel too little informed on the immensely complex question of railroad rates to venture an opinion of any value.”—J. A. TILLINGHAST.

“There is a valid distinction between the value of a commodity or service expressed in terms of money, and its value expressed in terms of other commodities and services. That distinction is as legitimate when applied to the value of railway services as when applied to the value of personal services. But use of the terms ‘nominal’ and ‘real’ in connection with *price* or *rates* involves confusion—or, at any rate, necessitates agreement upon definitions. If by *price* is meant value in terms of money (a common useful definition) there can be no distinction between ‘nominal’ and ‘real’ price. If by *rates* is meant

published and unpublished charges for railway service, in terms of money, there is no such thing as 'real' rates as contrasted with 'nominal' rates. But if by *price* and *rates* we mean merely ratios of exchange in terms of anything and everything, then it is important to distinguish between money rates and other rates. But why one should be considered any more 'real' than another is a question.

"Without attempting to settle the question, here, as to which of the above definitions should be employed, there is, in any case, no *necessary* connection or correspondence, in theory, between the above distinction regarding (so-called) 'nominal' and 'real' *wages* and 'nominal' and 'real' *rates* as defined in the accompanying quotations from President Hadley and Dr. Merritt. 'Real rates' are there defined as 'a percentage of the value of commodities carried.' I do not know that 'real wages' have ever been defined as a 'percentage of the value' of the particular services *rendered*. It is, therefore, not conducive to clearness, to group the terms 'wages', 'interest' and 'rates' and apply to them all alike the terms 'nominal' and 'real,' when the latter have different meanings according as they are applied to one or another of the former terms.'"—EDSON NEWTON TUCKEY.

"Yes."—E. B. WALLER.

"Yes, in all three cases (for first two see my *Fundamental Problem in Monetary Science*, pp. 291-4, and my *Measurement of General Exchange Value*, pp. 465-8), where, however instead of 'real price' I use 'true price.'" C. M. WALSH.

"Substantially yes. Nominal wages are wages in money; real wages consist of what money wages will buy or exchange for. Price and value are not equivalent terms and should not be confounded, one with the other. Price

is the value of a thing in money. A rise in prices is the same thing as a fall in the value—purchasing power—of money, hence, if no more money of *less purchasing power* be given as wages, then real wages are reduced.

“Nominal railway rates are, of course, rates in money. Real rates are what the money rates will buy of labor, supplies and material required for operating and maintaining roadway and equipment. If money of reduced value, or purchasing power, is paid to railroads as railway rates, it becomes equivalent to a reduction of rates.”—A. J. WARNER.

“I think not. They are juggling with words.”—D. C. WESTENHAVER.

“No, but there are fluctuations in the prices of commodities both general and special. I think there has been an increase in general prices since 1897, due to the large output of gold and that there is now a reaction and decline, due to the panic and crisis of 1907. I think that this reaction will soon pass away and that prices will recover and resume the progressive increase above noted, for the reason mentioned.”—HORACE WHITE.

“I do not weigh the following words carelessly, as I have long been interested in the line of inquiry you are starting. And I want to commend your course, which seems not only prudent but also very auspicious as an omen of things to come.

“I believe there are such distinctions as are here noted, and that recognition of them is absolutely necessary to correct thinking and correct conclusions in many fields of economic study.

“However, I do not think that ‘nominal’ and ‘real’ are well chosen words to describe the distinction in rates because the distinction differs from that in the other two

cases, where the words have long had a settled meaning. In other words, I think that there is a distinction in (a), (b) and (c), but that it leads to error to define the distinction in case (c) by the same terms as in (a) and (b)."

—GEORGE RAY WICKER.

"There is a real distinction between real and nominal wages, real wages being the sum of goods and services received for services rendered.

"(b) No distinction. Prices are values expressed in terms of the monetary unit: any other expression of value is not a price.

"(c) 'Real rates' as used by Merritt and Newcomb are not analogous to real wages. One is return for services, the so-called real rates are a return or measure of the services, a part of cost or production to the shipper. This means nothing to the carrier. His outlay is in terms of money and his receipts can only be considered in the same terms."—M. S. WILDMAN.

"I do not believe there is in actual practice any very clear distinction between the two. It exists in the mind only of imaginative statisticians."—A. B. WOODFORD.

"Most certainly."—LESTER W. ZARTMAN.

ANSWERS TO THE SECOND QUESTION.*

"For reasons stated under 1, I do not think your questions have much significance. Granting that this general method of approach is valuable, it still remains true: (a) that 1897 is a bad year from which to begin the comparison; and (b) that the problem is indefinitely complicated by the changing volume of business. Rates might *theoretically* decline while prices of labor and supplies increase, and yet pay higher dividends to the holders of railway stocks."—T. S. ADAMS.

"The distinction is important from the point of view of distribution of income. To the extent that the charges that a railway has to meet are fixed sums or percentages the distinction is not important but to the extent that the charges are variable—fluctuating with market conditions—the distinction is of tremendous importance."—EUGENE E. AGGER.

"It is important. Under a depreciated currency the nominal revenue might be sufficiently above the nominal expenses in any business to pay the interest on the capital involved, provided that interest could be paid in the same depreciated currency. But the surplus that would be left over for improvements or extensions would not add to the real value of the property an amount equal to what it would have been had the currency been on a sound basis. This assumes of course that the original capital investment was made on the basis of sound currency although, if not,

*The second question was: "If there is such a distinction; is it important and what is the extent of its importance?"

there would still be a difference between the nominal value and the real value of the surplus.”—W. F. ALLEN.

“It is important, making a difference of from twenty to thirty per cent.”—E. BENJAMIN ANDREWS.

“No significant, relative estimate of two or more economic situations can be made without reckoning with this distinction; *e. g.*, wages in Europe and in the United States, or railway rates in India and England.”—C. C. ARBUTHNOT.

“After many years of thought I have come to regard the pay of the unskilled laborer as on the whole the best individual measure of purchasing power, but the index numbers are important. I consider it so important that I am limiting my stock-market investments to depreciated bonds and stocks having large and long-time bond issues ahead, so as to reap the advantage of payment in a depreciating medium.”—N. T. BACON.

“Wages can be conceived in three phases. First, they are the product of labor; second, they are the money obtained for the product of labor; and third, they are the goods obtained for the money that was obtained for the product of labor. If competition were free, these three quantities would, as a rule, be precise equivalents.”—HUGO BILGRAM.

“The above relations indicate that any comparison should not be made on the basis of relative rates or prices, but that they should be made on some basis to show what is the relative share of the various producers in the product of which the rate or price is the measure of amount.”—JOHN BALCH BLOOD.

"This is an important distinction. Considered in connection with what economists call 'increasing returns' (*i. e.*, growth of traffic with no corresponding growth of investment in labor, material, etc.) it is a distinction of instant, immediate, and overwhelming importance."—JAMES E. BOYLE.

"Yes, it is of vital importance. The same laws which govern ordinary wages also govern railway rates and the railroad corporations, in my judgment, have the same right to a consideration of real rates as the wage earner has to a consideration of real wages."—JOHN E. BRINDLEY.

"The distinction is highly important in the study of certain questions. Advance in money wages since 1897 have not meant equivalent increases in real wages. By a parity of reasoning, the same thing is true of nominal increases in railway rates. President Hadley's statement quoted in your letter is undoubtedly correct."—CHARLES J. BULLOCK.

"The distinction must be observed for an accurate comparison of rates at different periods or in different countries."—VICTOR S. CLARK.

"I think it is important. Such distinctions are necessary to correctly compare different countries with each other and conditions in the same country at different times. It has bearing in the tariff question, for real wages and prices, not nominal ones, are significant. By neglecting the distinction great injustice may be done salaried people like teachers and the railroad may suffer by a misinformed or ignorant public opinion in these matters. For the speculative world to ignore it may be fatal not only to them but the general public as well."—J. W. CROOK.

"Its importance is measured by the degree of difference in the purchasing power of money at different periods as compared with commodities, being greatest when prices are most highly inflated."—JOHN FRANKLIN CROWELL.

"Very important in all transactions between debtors and creditors and where rates of payment for goods or services remain unchanged on account of law, custom, or any other reason whatever."—F. R. CLOW.

"It is claimed that real rates have declined twenty-five per cent in less than ten years. If so, conditions have accommodated themselves to this, so that the gain is distributed. To increase the rate, upon the theory that the decrease has been too great, will involve the difficulties growing out of the impossibility of tracing the application of the real rate to various commodities and articles, that now form the basis of commodities and classes in freight tariffs. An error in distributing the increased charge for transportation may affect most disastrously whole communities and sections of territory. A slight rise in freight rates would put brick manufacturers in some localities out of business. Manufacturers of fertilizers would be similarly affected. So would furniture manufacturers."—MORRIS M. COHN.

"The distinction is very important. Real wages, prices and rates being the important things to determine. This can only be done by a careful statistical inquiry, as real wages are in relation to the average general purchasing power of a dollar, and just so real prices and real railway rates are relative to what the recipient can do with the sum charged, whether in renewing his supply of goods or in maintaining the railway and its equipment and earning a fair degree of profit for the stockholders."—F. S. CRUM.

"It becomes important in proportion as the *real* rate varies from the *nominal* rate. Where the real rate varies considerably from the nominal, the real rate alone should be used."—JOHN CUMMINGS.

"You give too much space for question No. 1 and too little for No. 2. As to (a) it is true that to the worker an advance in real wages—in the command over the luxuries, conveniences and necessities of life—is more important than an increase in money receipts. (b) The extent of its importance is determined by the degree in which relative prices have advanced, stood still, or receded, so far as the respective sellers are concerned. (c) The extent to which sellers of transportation have been affected as compared with the sellers of other commodities (including labor) must be determined, *all other things being equal*, by the relative decline in the receipts of the respective parties. Of course, a long statistical investigation is necessary to determine the degree in which various parties have been affected."—W. M. DANIELS.

"No one questions the fact that you are trying to bring out, but it is misleading to make use of the terms *real* and *nominal* in this way. It creates a presumption in the mind of the casual reader that an injustice is being practiced upon the railroads and that they ought without question to be allowed to charge rates at the present time that are as much higher than their former rates as the prices of goods are above the prices prevailing at a previous period."—CARROLL W. DOTEN.

"The distinction is important, but I do not quite see how it could be applied in a general way to all charges, salaries and rates. If it were applied to the regulation of railway rates, why not to taxes, salaries, debts (bonds, mortgages, debentures, insurance policies, etc.). The distinction

might be applied more logically to securing a stable standard of value. This application has been suggested by certain economists who have studied the question of a scientific money standard.”—GARRETT DROPPERS.

“All persons and concerns with fixed money incomes are adversely affected by a rise in prices, whereas all who participate in advancing prices and have *fixed* sums in money to pay are the gainers. The gains of one party represent the losses of the other. Price changes, due to changes in the production of gold, introduce a disturbing influence upon business affairs for the reason that they do not occur simultaneously at all points. If fluctuations in the purchasing power of gold registered themselves in the case of each commodity at one and the same time with perfect nicety, they would be left out of the account. Such, however, is not the case. In so far as price changes are anticipated as by a rise in the rate of interest if prices are rising, they do not disturb business affairs.”—C. F. EMERICK.

“So far as railway rates affect the cost of living the distinction is important. The rate on flour affects the real price of flour.”—A. B. FAIRCHILD.

“This distinction is certainly important, indeed fundamental. The thing of real importance to those who are interested in wages, prices, railway rates, etc., is the real price. The nominal or money price is more or less a matter of accident, depending on the thing used as a standard of value. For example, if the standard dollar in the United States, which is to-day composed of 23.22 grains of pure gold, had been originally fixed at forty-six grains, the general level of money prices would be practically fifty per cent lower than it is to-day, since the standard would be worth twice as much. Real prices, wages, etc.,

and the welfare and relative wealth of the people would be no different from what they are to-day. The fundamental thing then is the real price or wage rather than the nominal or money price or wage.”—FRED R. FAIRCHILD.

“Yes.”—IRVING FISHER.

“The distinction, as drawn in the answer above, is very important. The mere amount of money received by laborer, capitalist, or any other person signifies nothing as to the conditions of life for the person in view. But the amount of the goods and services which the money will purchase signifies everything. This is the big fact, that is the theory. In actual life, of course, we come soon to carry in mind what any money income will command of good things; and then the distinction between real and nominal income is of practical importance only as the purchasing power of money changes.”—WILLARD C. FISHER.

“Important—indicating material decrease in *real* fixed incomes, whether of railroad, capitalist, or salaried man.”
—J. D. FORREST.

“There can be no question of its importance. Profit and loss often rest upon it. Salaries of professors in American colleges are nominally the same as in 1897, but actually they are now less than ten years ago. Of course the same would apply to railroad rates.”—A. G. FRADENBURGH.

“It is so important that no reliable conclusion as to what are fair rates to be charged by public service corporations can be reached without considering it. But, as a matter of fact, if the railroads had themselves always been careful to observe this distinction and had not, by watering their stocks, confused the effort to determine

fair rates, they would be far more consistent in emphasizing the distinction now.”—GEORGE P. GARRISON.

“The distinction is of importance.”—DAVID I. GREEN.

“In discussing its importance the distinction between average receipts per ton mile and net earnings must be remembered; also the public character of the railway service. Change in character or volume of traffic may change average receipts without affecting net earnings. So, also with changes in operating efficiency.

“I understand you to mean by ‘real rates’ practically the average net receipt per ton mile. It is certainly important to distinguish this from and compare it with the *gross* figure. But in the questions now at issue it is chiefly important as a factor in determining net income from operation and the rate of return on private capital in transportation.”—LEWIS H. HANEY.

“The distinction is important, but it is hard to describe the extent of the importance. In some sections of the country it is of course greater than others; for instance, in this city the fuel problem is not of the great importance it is where the winters are more severe. There are comparatively few days in this city in winter when artificial heat is required during the entire day, and the character of clothing necessary for comfort is of course not as expensive as where the cold is more intense and extended, and certain articles of food, by reason of our open winters, are of course not as high as they are in the North.”—W. O. HART.

“Such a distinction is fundamental in comparison of wages, etc., among different groups of recipients and at different periods of time. With regard to the problem in hand, it justifies the maintenance of a constant propor-

tion between railway charges and the cost of service as measured by wages and prices paid (under economic administration) including interest at a reasonable rate upon an honest capitalization."—R. H. HESS.

"It is important. The forces bringing about the rise of prices will necessarily lead to a rise of railroad rates—or to railroad bankruptcy."—JOSEPH FRENCH JOHNSON.

"It is of the utmost importance, because of the varying extent and degree of promptness in which alterations in the relative money supply affect (1) general prices, (2) general wages, (3) the prices of different individual commodities (which together constitute the general price level), (4) the wages of different classes of working men which together constitute the general wage level."—E. W. KEMMERER.

"The distinction is important; for the welfare of the individual or class is determined by his real wealth and income, not his nominal wealth and income. The working man who owns a \$400 cottage (cost of building), is no richer because the assessor values it for taxation at \$500 if he cannot sell it for more than \$400. He has no more to eat when his supplies consist of a barrel of flour and a bushel of potatoes and twenty pounds of beef, when he has to pay \$15 for these supplies, than he is when he gets them for \$10. The real standard of living or consumption, in other words, consists in the goods actually used, and not in the money they cost, which indicates the individual's proportion of the community's goods."—DAVID KINLEY.

"The distinction is important, but to what extent it is important, I am unable to state without a very careful study of the subject."—M. A. KURSHEEDT.

"The distinction is very important. A variation in the nominal rate may not alter the economic welfare of any person, but any change in the real rate points with certainty to somebody's rise in the world and someone else's setback."—CHARLES H. LEEDS.

"Certainly; and its extent will depend on the purchasing power."—ARTHUR T. LYMAN.

"The distinction is of particular importance in the interpretation of price movements. The rise in prices since 1897, for instance, has been 'nominal' rather than 'real,' *i. e.*, money, as the measure of value, has increased in volume more rapidly than have those commodities and services the values of which it serves to measure."—ROSWELL C. MCCREA.

"The distinction is important in a period like the present, when the supply of gold is changing rapidly, though the fall of prices, since the panic of October, 1907, indicates that other conditions may seriously retard and even overcome the rise of prices which normally accompanies an increased output of gold."—JOHN MARTIN.

"It is important. It does not follow, however, that, because the gold dollar has depreciated, railway rates should be boosted up."—ROYAL MEEKER.

"It is of the first order of importance. If real railroad rates continue in the future progressively to decline (which must be the case if there is continued divergence between the prices of what they buy and the prices of what they sell) it will first check improvements and ultimately bankrupt the roads. The position of any one who sells for a customary price is very difficult under present monetary conditions, unless he can virtually advance his

price by lowering the quality and hence the cost of his commodity. We are really at present in a revolutionary economic state, and the public mind has great difficulty in getting its bearings through inexperience. This is but the third time, since modern history began, when there has been inflation on a specie basis."—CHARLES W. MIXTER.

"The only importance, in my opinion of this distinction lies in the fact that with comparative statistical data before us of the three rates mentioned above, we are able to determine the relative increase or decrease of these rates individually from year to year and comparatively with each other. The figures then speak for themselves, as to real increase or decrease of wages, prices and railroad rates, and their nominal increase or decrease relatively to each other."—JAMES B. MORMAN.

"This distinction as to the difference between the nominal and real railway rate is of considerable importance to the railways, since the value of railway services are, like the value of anything else, determined by marginal utility and not by cost. Increase in the cost of labor and materials (a decrease in real rates) does not necessarily imply an increase in the value of the transportation services rendered, and therefore the railways have little economic force at their command in an attempt to raise nominal rates as long as low real rates is all they can plead as an excuse. If, however, a low real rate is accompanied by an increase in the value of services (higher marginal utility) the moral force of the former will add itself to the economic force of the latter. Without the economic force of efficiency of service rendered for nominal rates a low real rate is to be economically interpreted as the rate of a 'marginal producer.' If competition exists there is no help at hand, but if not, as in the case of most railways, then the existence of an *industry* as well

as that of the *producer* is threatened and the '*principle of protection*' becomes justifiable; that is, governmental interference where the free play of economic law fails to 'regulate.' This of course would be the provision of means to enable a railway to raise its nominal rate. Some foreign railways are obliged to charge a nominal rate permitting of so low a real rate that expenses eat up all income, and are therefore supported by government aid (principle of protection) on account of the high social (uncollectible) income accruing to the country in general. A study of the questions involved in real railway rates would to my mind help in pointing out why railways do not profit from 'rents' while landlords do."—GEORGE S. MOYNAHAN.

"As money is not in itself an ultimate economic good, but merely the medium by which surplus commodities are commonly exchanged for those necessary to satisfy economic wants, the distinctions between returns for labor services or the use of property expressed in mere volume of money and such returns expressed in the capacity of the sums of money obtained, to serve, as to the individuals receiving them, the purposes for which money exists are always important. They are so important that any inquiry as to wages, costs, or railway rates, which seeks to compare conditions at different periods of time or in different regions and omits to take them into account is scientifically incomplete and is usually rendered valueless by the omission."—H. T. NEWCOMB.

"The distinction as applied in your queries is, as it seems to me, a misleading one. Rates are the prices charged to a *unit* (of weight and distance) of *transportation*. The fallacy of your position lies in ignoring the distinction between '*real and nominal cost of transporta-*'

tion.' The proper term analogous to 'real and nominal wages' is 'real and nominal profits.'

"There is no reason why rates should bear a constant ratio to price. Rates of transportation have had a constantly decreasing ratio to prices ever since the time of the Stuarts, when it cost more to transport goods from York to London than it does now to transport them from Minnesota to London. This fact is a great advantage to consumers and it is consistent with larger profits than in former years."—L. W. PARISH.

"If society were static, the importance would be nil; for relative conditions would adjust themselves (*i. e.*, if money fell, wages and prices would go up, and *vice versa*). But in shifting conditions, as to-day, the importance is considerable. Prices feel the influence of cheap money first, then wages, and finally such rates as railroad rates, which are subject to judicial procedure, and are therefore slow of adjustment."—JULIUS H. PARMELEE.

"The distinction is decidedly important and any failure to recognize it could not long continue as price change, resulting from the economic forces operating, must thrust it upon the attention of everyone, producer and consumer. The extent of its importance is measured by the difference between economic justice and injustice between the various classes of producers and consumers, capitalists, wage-earners and entrepreneurs."—WARREN M. PERSONS.

"Yes. The underlying meaning of all contracts to pay money changes when the purchasing power of money changes."—CARL C. PLEHN.

"Failure to take into account this distinction may bankrupt a road, stop dividends and thus cause financial dis-

turbance; or, in case dividends are continued, needed improvements or extensions may be stopped. We need improvements and we need extensions. These it seems to me outweigh the disadvantage of a slight increase in nominal rates. There is bound to be a disadvantage for the general public do not easily grasp the importance of the above distinction and as a consequence prejudice is sure to be the outcome of any upward movement of rates, even though this movement is more apparent than real.”
—JESSE E. POPE.

“Its importance is sufficiently indicated by the percentages quoted within.”—H. H. POWERS.

“It is very important.”—L. G. POWERS.

“There is such a distinction; it is important, and its importance is measured by the extent of the fluctuation in the value of money.”—LAWSON PURDY.

“This distinction is important but of no greater importance and no greater extent than in the case of prices for commodities to any person whose income is comparatively fixed. If the railways do not care to do a service longer at a given price, it is their privilege to stop just the same as any day laborer may stop. To say that the public nature of the railway business will not permit of a stop is only to play fast and loose by one word for the public and two for the companies.”—H. W. QUAINANCE.

“The real wages, prices and rates are the important things. Upon them, not upon nominal wages, prices and rates, depend the prosperity and progress of the people.”
—CHARLES LEE RAPER.

“The distinction is important. Coryea Moylan Walsh, in his splendid book entitled ‘The Measurement of Gen-

eral Exchange Value' ventures the suggestion that gold may be found among the most variable priced commodities.

"Every studious speculator in farms, bonds or stocks, reasons vaguely that what he wants back in a few years is a lump purchasing power, and so he attempts to make such investments as will bring an 'unearned increment' either because of or in spite of changes in the exchange-value of gold."—WALTER T. RAY.

"The distinction is important for the absolute money charge is of little value or interest to the shipper compared to the relative. Naturally an adoption of a real rate on a basis of charges of ten years ago would work to the disadvantage of the shipper and to the advantage of the railroad."—GARDNER RICHARDSON.

"The distinction is so far-reaching that it is of the largest public and private import. A measure of its importance is the difficulty of adjusting nominal rates; hence it is of the gravest importance for certain selected classes, economic groups. These include wage-earners in most lines and localities, and the producers of some lines of commodities."—PHILIP A. ROBINSON.

"As to (c): Its importance is that it calls attention to the necessary relation between the charges for the services which the railways render as a whole and the cost of rendering those services. Costs have no doubt risen materially during the last ten years—disregarding the downward trend of prices during the last nine months which will probably prove temporary only—and this must be considered when the railroads are criticised for not lowering their 'nominal' rates or even for advancing them."—HENRY R. SEAGER.

"All or at least most business arrangements are entered into on the assumption that the purchasing power of the dollar is constant. Any considerable increase or decrease in the value of money seriously disturbs business by altering the distribution of the social income. Unless all contracts involving the payment of money are modified, as contemplated in the so-called tabular standard of value, an increase or decrease in the purchasing power of money alters distributions. Some classes or interests get more and others less than would have been the case had the value of money—its purchasing power—remained constant."—J. ALLEN SMITH.

"I have not sufficient data to express an opinion on the subject of railway rates."—N. I. STONE.

"The importance rests in the fact that the real test of the economic condition of a society is not to be found in the number of units of a standard of value, such as money, which pass through the average person's hand but is the amount of the necessities, comforts and luxuries of life which the average laborer or rather citizen secures, coupled with the amount of savings after the necessities and comforts are secured."—GEORGE S. SUMNER.

"Yes, very important."—FRANK J. SYMMES.

"Certainly it is important. The mere change of twenty-five per cent in the purchasing power of each dollar, unless compensated by an equal change in the number of dollars you get for service rendered is sufficient to cancel the profit of any business or to double it,—according to the direction of change in purchasing power of the dollar."—J. A. TILLINGHAST.

"The distinction between the money values and the commodity values of goods and services as explained

above, is absolutely essential to a correct analysis of any problem involving a comparison of wages, prices or rates in different periods of time.”—EDSON NEWTON TUCKEY.

“Man cannot eat money. He must exchange it for commodities. Our monetary system is imperfect. The multiple system will be used five hundred years from now.”—E. B. WALLER.

“Yes. (For its importance in the case of prices, see my ‘Measurement of General Exchange Value,’ pp. 473-7).

“As for railway rates, it means that they ought to rise in proportion to the rise of general prices, unless there have been improvements and economies reducing the costs (in labor and material) of rendering the same services, or unless the rates were initially too high.”—C. M. WALSH.

“Some two years ago I stated that, since a rise of prices was the same thing as the depreciation of money, that if prices, on the one hand, continued to rise, thus increasing the cost of labor and supplies of all kinds required by railroads, while, on the other hand, the roads were prohibited from earning more dollars by correspondingly raising rates, that it was only a question of time when the strongest roads would be forced into bankruptcy. A number of the weaker roads have already gone that way.”—A. J. WARNER.

“Utterly unimportant, if true.”—D. C. WESTENHAVER.

“I have already answered this question in part. Your own questionnaire indicates one of the ways in which such distinctions are of importance. Similar distinction in the case of wages is important, *e. g.*, in tariff discussions;

in studies of social progress ; etc. It would take a chapter to answer the question adequately."—GEORGE RAY WICKER.

"It is important to the shipper that his rate be as low as he can make it, just as it is important that his outlay for wages or material or any other productive acts be low. It is of no import to the carrier as explained above."—M. S. WILDMAN.

"It is unquestionably, very important in any careful calculation of actual variations, and relative economic advantages. Very few people make these, however, with any accuracy. Neither business men nor employees make a comprehensive and consequently properly proportioned comparison."—A. B. WOODFORD.

"Of much greater importance than a simple change in money or nominal wages and rates. Without making this distinction, one's conclusions might be just the reverse of the true condition."—LESTER W. ZARTMAN.

ANSWERS TO THE THIRD QUESTION.*

"The dollar will purchase less than in 1897, unquestionably."—T. S. ADAMS.

"A study of the index numbers of wholesale prices for the period specified forces one to the conclusion that there has been a depreciation in the value of the dollar since 1897."—EUGENE E. AGGER.

"Measured by what standard?"—W. F. ALLEN.

"Most certainly."—E. BENJAMIN ANDREWS.

"Without having given the matter careful consideration, I am inclined to think that gold, as compared with many commodities and services, has depreciated in value due to the increased output of the metal; also that many commodities and services have appreciated as compared with gold, due to the stimulated demand for them in the pursuit of profits during the recent period of prosperity."—C. C. ARBUTHNOT.

"There seems to be no doubt that it has."—N. T. BACON.

"The value of gold, like that of other things, is changeable. A dollar of one year is not the same thing as the dollar of another year, except that in each case it is 23.22 grains of gold. As there is no standard by which to com-

*The third question was: "Has the American dollar depreciated since 1897?"

pare the dollar of one year with that of another year the question cannot be answered from an indiscriminate standpoint. In relation to some things it has appreciated; in relation to others it has depreciated.

"It is not fair to compare the conditions of a year of stagnation with a prosperous year. When business is booming, each workman, as a rule, performs more work than when business is dull, and if he gets a larger number of dollars per week, he may actually get less in proportion to the amount of work he is doing. In dull times, workmen will always try to make their job last as long as possible."—HUGO BILGRAM.

"Depreciation and appreciation are relative and mean nothing unless a standard is given. There is no doubt that the gold price of certain articles has appreciated since 1897 in the United States. If these articles are taken as a basis, it may be said that money has depreciated. The gold price of wages per day has increased in some cases. However, the increase in efficiency of labor is such that the gold price per unit of work produced has not increased in all cases. The fact that the differences in gold prices of commodities between 1897 and 1907 has been so far from uniform would argue that individual appreciation of prices and wages was a fact; and not a general depreciation of the common denominator."—JOHN BALCH BLOOD.

"It undoubtedly has greatly depreciated. The increased output of gold proves this."—JAMES E. BOYLE.

"If you mean by this the value of a *unit of gold* as a commodity, an affirmative answer does not necessarily follow. It is true that prices in general have risen and in some cases very much. But the appreciation or depreciation of gold is only one factor—and by no means the most important one in this phenomenon."—JOHN E. BRINDLEY.

"Undoubtedly."—CHARLES J. BULLOCK.

"Measured by other currency, No. Measured by commodity values, Yes."—VICTOR S. CLARK.

"I think it has. The dollar won't buy as much and as a medium of exchange it won't do as much for its owner."
—J. W. CROOK.

"Taking into account the widening of demand for money as concurrent with the enlarged demand for commodities, which brought prices to the level of 1907, it is doubtful."—JOHN FRANKLIN CROWELL.

"Yes."—F. R. CLOW.

"I do not think its purchasing or paying quality has been uniformly lessened. The prices of dry goods, and the wages of dry goods clerks, seem to me to have remained about the same; this, of course, does not exhaust the list. I doubt whether the purchasing or paying power of the American dollar owes its depreciation to anything except the very remarkable industrial activity which has distinguished the past ten years in the United States, and to the increasing demands of the members of the trades unions and labor unions. In some respects the demands and power of the unions have encouraged a class of men to neglect their work, or to do poor work, and have compelled railroad companies, among others, to keep on their pay rolls men they did not require:—to this extent the purchasing power of the American dollar seems to me to be affected by other conditions than those attributable to industrial activity."—MORRIS M. COHN.

"Measured by prices, yes. The increased gold supply has no more than kept pace with the increased demands

made upon it. The purchasing power of a dollar, is, in my opinion, at least, ten per cent less to-day than in 1897. This is certainly true as regards the necessities of life."—F. S. CRUM.

"Undoubtedly."—JOHN CUMMINGS.

"Undoubtedly."—W. M. DANIELS.

"Unquestionably."—H. T. DAVENPORT.

"Yes."—DAVIS R. DEWEY.

"There is no doubt about this. The purchasing power of a dollar is less than it was in 1897. How much less is a question on which the authorities do not agree, but that does not matter so far as the theoretical basis of your argument is concerned."—CARROLL W. DOTEN.

"The American dollar has unquestionably depreciated during the past decade (1897-1907). A rise of prices is the same thing as a money depreciation. What the causes of this depreciation in the United States are is not easy to state, as in this country the question is complicated by tariffs, etc. Sauerbeck's index numbers in Great Britain would, in my opinion, give us a truer measure of the amount of the depreciation. A fair estimate would, I believe, be thirty per cent and this is due *mainly* to the increased supply of gold."—GARRETT DROPPERS.

"Yes. I do not know of any authority who denies the fact."—C. F. EMERICK.

"The prices of many commodities have increased. It is difficult to estimate the depreciation of the dollar."—A. B. FAIRCHILD.

"There can be no doubt that the American dollar has depreciated to a considerable extent since 1897."—FRED R. FAIRCHILD.

"Yes."—IRVING FISHER.

"Unquestionably. That is, the purchasing power in terms of general commodities has fallen."—WILLARD C. FISHER.

"Yes."—J. D. FORREST.

"Yes."—A. G. FRADENBURGH.

"Undoubtedly."—GEORGE P. GARRISON.

"Undoubtedly."—DAVID I. GREEN.

"I believe so. But I think the index numbers of the 'Economist' shows an appreciation during the past year."—LEWIS H. HANEY.

"That the American dollar has deteriorated since 1897, is apparent to all who have given even the most cursory study to the production of gold since that time. A few years ago the late Mr. Walter S. Logan, an eminent member of the New York Bar, wrote a most instructive and exhaustive article on this subject. I endorse all that he said then, and time has justified his conclusions. The best answer that can be made to this question is his article which I have no doubt you can easily procure."—W. O. HART.

"Yes."—R. H. HESS.

"Yes. About thirty per cent."—JOSEPH FRENCH JOHNSON.

"It did decidedly from 1897 to October, 1907, although there has been a movement in the other direction since that time."—E. W. KEMMERER.

"In my opinion the purchasing power of a dollar has depreciated about forty per cent since 1897, as indicated by the increase, in the price of goods since that time."—DAVID KINLEY.

"Undoubtedly, yes."—M. A. KURSHEEDT.

"Yes."—CHARLES H. LEEDS.

"Beyond question gold has depreciated since 1897 approximately forty per cent."—W. H. LOUGH, JR.

"Perhaps so—but other causes have probably largely neutralized the effect, for the time at least.

"The tremendous business activity and development in this country caused such a demand for labor and products that wages and prices advanced rapidly and largely at least with little reference to depreciation of gold. The rough and reckless actions of the Administration at Washington brought on a panic which might probably have been avoided by sane and reasonable action though development and extravagance were so far outrunning capital and income as to make it certain that there must be a curtailment.

"Prices of goods have fallen heavily (not owing to appreciation of gold, of course) but labor wages have not generally fallen in at all the same ratio. So in fact and partly in consequence many men are out of work. Railroad gross and net receipts have been greatly reduced, without reduced wages or advanced freight rates."—ARTHUR T. LYMAN.

"Yes."—ROSWELL C. MCCREA.

"It depreciated from 1897 to 1907. Since October, 1907, it has been slightly appreciating."—JOHN MARTIN.

"Yes, undoubtedly."—ROYAL MEEKER.

"Yes, undoubtedly."—CHARLES W. MIXTER.

"No. The purchasing power of the dollar has decreased, but this is not 'depreciation.' The purchasing power of the dollar has decreased because the wages, prices of commodities, railroad rates, etc. have increased. The *value* of the dollar is the same and will remain the same because it has been established as a standard with which to measure other prices. *Money is not a commodity.* To treat it as a commodity has been, in my opinion, the great blunder of many economists. It is a social force created by society to do social work, and as 'money' is beyond the conditions which affect the rise and fall in prices of commodities, wages, etc. (But this is too important a subject to be discussed in a mere note. It is worthy of careful elaboration and conscientious discussion, and in my opinion, when its real significance is fully grasped will help economists to get together on practical grounds for the solution of some of the great economic and social questions which now confront us.)"—JAMES B. MORMAN.

"The American dollar has without doubt depreciated in value since 1897. This seems to be a consequence of the increase in the world's supply of gold which began about 1892 and has since continued, while the period of falling prices reached the critical point in 1897, when prices followed the upward course in, as it were, sympathy with the gold supply. Certain variations in the prices

of protected commodities should of course be discounted in an argument based on these facts."—GEORGE S. MOYNAHAN.

"Yes."—H. T. NEWCOMB.

"Granted that the American dollar has depreciated in purchasing power since 1897."—L. W. PARISH.

"Yes."—JULIUS H. PARMELEE.

"The statistics that you have cited demonstrate that the dollar has depreciated. Gold is undoubtedly cheaper. In 1897, Bryan, thinking that the annual gold production would be a decreasing rather than an increasing addition to the world's store, advocated the free coinage of silver in order to increase the amount of the circulating medium and put a stop to the falling prices. The circulating medium has increased from twenty-one dollars per capita in 1896 to thirty-five dollars per capita, in 1908, but by the addition of gold and not silver."—WARREN M. PERSONS.

"Yes."—CARL C. PLEHN.

"I believe it has."—JESSE E. POPE.

"Beyond a doubt."—H. H. POWERS.

"I believe it has."—L. G. POWERS.

"Yes."—LAWSON PURDY.

"As the standard of value, it is an insult to ordinary intelligence to suggest that the dollar could depreciate."—H. W. QUAINANCE.

"In terms of wages, prices and rates, the American dollar has unmistakably depreciated since 1897."—CHARLES LEE RAPER.

"I think the fact is undisputed by the well-informed. Personally I am inclined to think that money exchange value depreciates faster than the gold supply increases, because only part of the gold goes into money or bank vaults, and the rest into the arts; and also because gold serves as a basis for a huge credit structure, which for psychological reasons builds up even faster than its gold base, and periodically gets top-heavy, but in the nature of things never shrinks back to its old proportions."—WALTER T. RAY.

"It seems to me there is no reasonable doubt it has, and that any one who claims it has not depreciated, defends an untenable position."—GARDNER RICHARDSON.

"It appears so, from the great mass of current prices. I take this depreciation to be strictly a mercantile one, and do not believe there has occurred in the interval mentioned a sensible depreciation of money from either production of money (metal) or issuance of currency. Therefore, the price effects are more various and complex. They may be quite as fictitious as if caused by currency manipulation, but they seem to have more points of origin."—PHILIP A. ROBINSON.

"Yes; the index number you quote from the Bulletin of Labor indicates, in my opinion with a fair degree of accuracy, the extent of the depreciation."—HENRY R. SEAGER.

"That it has, seems to me evident."—J. ALLEN SMITH.

"The purchasing power of the dollar has undoubtedly been impaired."—N. I. STONE.

"Yes."—GEORGE S. SUMNER.

"Yes."—FRANK J. SYMMES.

"I think no intelligent observer of our time can doubt this."—J. A. TILLINGHAST.

"Yes, but it had appreciated for a considerable time prior to 1897."—EDSON NEWTON TUCKEY.

"Yes."—E. B. WALLER.

"Yes."—C. M. WALSH.

"It evidently has. Index numbers kept by the *London Economist* show a rise of prices of thirty per cent between 1896 and 1907, in England. Our records indicate a somewhat greater rise in prices, or from thirty-three to forty per cent. But this change in prices is not all due to the increase in the production of gold; part of it is due to the large additions of paper money to the gold."—A. J. WARNER.

"No one knows. If it has, the quantitative theory of money preached by the free silverites in 1896 is established. Then, I thought I had convinced myself that this theory was not the controlling factor in the matter of prices; I am now half persuaded that I was wrong."—D. C. WESTENHAVER.

"The American dollar consists of 23.22 grains of fine gold. Apparently this amount of fine gold will buy a less amount of the commodities of life than it would in 1897.

If that is the fact and if it is due to the increased output of the metal, it may be fairly said that the dollar has depreciated.”—HORACE WHITE.

“I am unhesitatingly of the opinion that it has so depreciated and that a prominent, probably the chief, cause has been the unprecedented increase in gold production. It is for this reason that I regard the eastern attack on Bryan for dropping free silver as caused either by ignorance or dishonesty. (I am not for sixteen to one, by independent action of the United States.)”—GEORGE RAY WICKER.

“It is just as much depreciated as the level of general prices is higher. The rise and fall in the value of a dollar has no meaning except as reflected in purchasing power. Your own statistics show that this purchasing power has declined.”—M. S. WILDMAN.

“I doubt very much if there has been any very large depreciation, the increased supply having been quite fully taken up by the increased demand, and the cost of the production on the margin not having greatly varied. The statistics needed to determine this are not price variation, even in index numbers, but the unobtainable figures of cost to a number of mining companies.”—A. B. WOODFORD.

“Beyond a doubt.”—LESTER W. ZARTMAN.

ANSWERS TO THE FOURTH QUESTION.*

"It is, *even theoretically*, impossible to state this change in any simple average or single figure. (The reasons for this statement are abstruse and may be found in an article by the writer in the *Journal of Political Economy* for, I think, December, 1901 and March, 1902). The index numbers of the Bureau of Labor, however, are carefully prepared and tell the truth in a rough way."—T. S. ADAMS.

"This is too difficult to estimate with any degree of satisfaction."—EUGENE E. AGGER.

"Approximately thirty per cent."—E. BENJAMIN ANDREWS.

"I am unable to make more than a guess at the percentage lost, and beg to be excused."—C. C. ARBUTHNOT.

"1897 is a bad year to adopt as a basis of comparison, for the dollar then had an abnormal value, as this was in the worst of the depression following 1893. Our panic last fall was sharper than that of 1893 in its effect on stock exchange values, but the depression following does not seem to be anything like so severe. Moreover, the prices for 1907, (the last given) were practically unaffected as the panic came so late in the year that little business was done after it. I am inclined to esti-

*The fourth question was: "If the American dollar has depreciated since 1897, approximately what percentage of its value in that year has it lost?" It should be observed that in many cases the answers to the third question also answer this one.

mate the depression at between ten per cent and twenty per cent and probably nearer twenty per cent in ten years, say two per cent per annum, which is less than twenty per cent in ten years.”—N. T. BACON.

“A basis must be given to figure such a reply. It is, of course, possible for the exchange value of gold and American money to remain absolutely the same and yet have practically all American commodities increase in price. In such case the average appreciation of all commodities might be considered as a depreciation of the common denominator. The variation in the difference is so large that each item must be considered in itself.”—JOHN BALCH BLOOD.

“This is largely a matter of speculation with me, but I would say from thirty to forty per cent.”—JAMES E. BOYLE.

“It has lost about one-third of its purchasing power.”—CHARLES J. BULLOCK.

“Not qualified to say without more study than I can give the question at present.”—VICTOR S. CLARK.

“That is a question for the expert statistician. Only such investigations as Jevons undertook could tell. A rough guess would be a minimum of twenty per cent.”—J. W. CROOK.

“No exact measure possible. About twenty or thirty per cent.”—F. R. CLOW.

“Should say not less than ten per cent.”—F. S. CRUM.

“Its depreciation is measured by the rise in prices.”—JOHN CUMMINGS.

"Here again an involved statistical investigation is necessary. Not only index numbers in this country, but abroad must be compared. Two things are very important to remember, however: (1) that only a part of the more copious gold output of recent years has gone into addition to the world's coin stock,—the rest being consumed in the arts: (2) some considerable part of the rise in general prices in the United States since 1897 has been due to an expansion of credit in excess of even increased reserves of gold coin. Without investigation too long to enter upon at present, I am not prepared to say that the depreciation in the gold dollar has been more than one per cent a year since 1897. It may have been more, but hardly less."—W. M. DANIELS.

"Should estimate it at something like twenty per cent."
—H. T. DAVENPORT.

"Authorities differ, but all the index numbers show a rise in prices."—DAVIS R. DEWEY.

"I have not the time to look this matter up, but several sets of index numbers are available which would render it possible to arrive at an approximate estimate."
—CARROLL W. DOTEN.

"The several index numbers used in this connection are not at hand. They differ somewhat as to the extent to which gold has depreciated, but I think they agree as to the general fact."—C. F. EMERICK.

"Do not know."—A. B. FAIRCHILD.

"An exact answer to this question is, of course, impossible. I am unable to give an approximate answer without devoting more time to the study than I am able to do

at present. The correct way to answer this question is by a study of index numbers which show the change in price level. The value of money varies inversely as the value of other things, that is, the price level. The best index numbers to make use of are the following:—London Economist, Palgrave, Soetbeer, Sauerbeck, Falkner, Commons, Dunn, and the United States Labor Bureau. In Johnson's 'Money and Currency' you will find an interesting table, illustrating some of these index numbers, at page 112, and a discussion at page 214. The result of these index numbers will vary; each index number giving a different result. They are rough approximations only, but should be exact enough for your purposes."—FRED R. FAIRCHILD.

"Thirty per cent."—IRVING FISHER.

"I am a long way from my books which contain the various tables of general prices. It is a matter of easy arithmetical computation. The percentages will, of course, be somewhat different according as we use one or another of the several accepted tables."—WILLARD C FISHER.

"The fact of depreciation is easily established but the exact measurement of the depreciation is not so easily reached. I do not believe that any of the statistical methods employed are entirely adequate for this purpose."—J. D. FORREST.

"I could not state exactly the depreciation. I should say about thirty per cent."—A. G. FRADENBURGH.

"I am not prepared to give the statistics. Can you not rely on the figures you quote from Bulletin 75 of the

United States Bureau of Labor? The percentage of depreciation can be easily deduced from these.”—GEORGE P. GARRISON.

“About thirty per cent.”—R. H. HESS.

“This question is very difficult for me to answer, partially for reasons given in answer to question No. 2.”—W. O. HART.

“Prices rose forty-four per cent. Dollar declined in proportion of 144 to 100 or as 100 to 70—thirty per cent decline on dollar’s purchasing power.”—JOSEPH FRENCH JOHNSON.

“The Bureau of Labor’s Index figure for the prices of all commodities indexed in 1897 was 89.7, in 1907, it was 129.5. This represents an increase in the general price level of the various commodities included in Bureau’s table of forty-four per cent, or a decline in the purchasing power of money of thirty-two per cent. It should be noted, however, that this is a comparison of extremes, 1897 being the year of lowest prices in recent years and 1907 the year of highest prices. *The London Economist’s* index figures show a decline in English prices of seventeen per cent from June 1, 1907, to September 1, 1908. The Bureau of Labor’s index figures for September, 1908, are not available, but in view of the depression in the United States it is reasonable to expect a decline in the United States as great or greater than that of England.”—E. W. KEMMERER.

“It is difficult to state the percentage, but it seems to me that the dollar has depreciated thirty-five per cent.”—M. A. KURSHEEDT.

"Roughly, thirty-three and one-third per cent and it is useless to attempt anything beyond a rough calculation."
—CHARLES H. LEEDS.

"Roughly speaking, forty per cent."—ROSWELL C. McCREA.

"As shown by the index numbers for 'all commodities' it has (approximately) depreciated in the ratio of 90 to 130. Ninety gold dollars in 1897 would purchase as much as one hundred and thirty gold dollars would purchase in 1907, a diminution in value of 44.44 per cent.

"But in 1908 the gold dollar has appreciated."—JOHN MARTIN.

"Impossible to say accurately. Twenty-five to fifty per cent according to locality, would measure about the rise in prices of most staple commodities, corresponding to a fall in the value of gold from twenty per cent to thirty-three and one-third per cent."—ROYAL MEEKER.

"We have no means of knowing the quantitative result other than by index numbers. Probably they are sufficiently correct."—CHARLES W. MIXTER.

"The loss of value in the American dollar may be viewed from the normal and real points of distinction in the manner suggested in the first question. The normal loss, based on its general exchange value, irrespective of its possessor, is perhaps approximately forty per cent from all causes, amongst which I believe, we should include that arising from the tariff when the American (United States) dollar is specified."—GEORGE S. MOYNAHAN.

"The index numbers of the Bureau of Labor for 1897 and 1907 were 89.7 and 129.5 respectively. This would

indicate an increase of 44.37 per cent in prices which is equivalent to a depreciation of standard money of 30.73 per cent. These 'index numbers' do not represent, however, all the expenditures entering into the average family budget. It is safe, however, to say that the depreciation is not less than twenty-five per cent."—H. T. NEWCOMB.

"Granted that it has depreciated twenty-five per cent."
L. W. PARISH.

"It is hard to say, and I would not venture a statement. Probably fifteen or twenty per cent, at the least."—
JULIUS H. PARMELEE.

"It is largely due to this great addition to our circulating medium that prices have risen twenty-five to fifty per cent since 1897."—WARREN M. PERSONS.

"The several published index numbers are attempts to answer this question literally.

"To answer the spirit of the question in percentage form is hardly possible. The effect of industrial depressions and of periods of prosperity on prices account for the extreme fluctuations. Nobody has the wisdom enabling him to separate the changes due to the money changes alone from those due to other causes."—CARL C. PLEHN.

"I am unable to give you an accurate answer."—JESSE E. POPE.

"Depends on your conception of the true standard of value, a much controverted point. At least twenty per cent."—H. H. POWERS.

"I would not wish to answer this question with any great assurance of definiteness, but as near as I can de-

termine, it has, not less than ten and possibly more of a percentage."—L. G. POWERS.

"I believe authorities differ as to the extent of the depreciation of the American dollar since 1897, but are agreed that that depreciation has been over twenty-five per cent."—LAWSON PURDY.

"I am inclined to think that its depreciation since 1897 has been near ten to fifteen per cent."—CHARLES LEE RAPER.

"Perhaps even forty per cent."—WALTER T. RAY.

"This is a difficult question to answer, and one on which opinions and even conclusions based on figures would widely differ. A fair estimate would be that a dollar has one-third less purchasing power now than in 1897."—GARDNER RICHARDSON.

"I am not in a position to give a well-qualified opinion. I believe, however, there is a disposition to overrate the percentage of loss. My conjecture would be that, for the broadest price level our dollar has shrunk some twelve to fifteen per cent, possibly a little more than fifteen per cent.

"*Caution:* Statistical estimates of such a change, applied generally, should not be made, not interpreted without carefully weighing the item selected."—PHILIP A. ROBINSON.

"Price level 1907, 129.5

"Price level 1897, 89.7

"Rise in price level 39.8 which is forty-four per cent of 89.7, therefore prices rose forty-four per cent. If

prices rose forty-four per cent it required \$1.44 to purchase in 1907 what one dollar would purchase in 1897, that is, one dollar would purchase only 100-144 times 100, or sixty-nine per cent of what it would before, therefore, the dollar depreciated thirty-one per cent,—say thirty per cent.”—HENRY R. SEAGER.

“I would not attempt to say how much general prices have risen since 1897, but if we could find a list of commodities whose price changes are fairly representative of the changes in the prices of goods generally since that date, the average increase in the prices of these selected commodities would indicate the extent of depreciation in the dollar since 1897.”—J. ALLEN SMITH.

“For approximate estimates see publications of the Bureau of Labor.”—N. I. STONE.

“It is impossible for me to say without far more study than I have given the matter.”—GEORGE S. SUMNER.

“The percentage of value lost in the depreciation of the dollar since 1897 is in proportion to the excess of money now in use over the amount in use at that time;—eliminating from the consideration in both cases money on storage in mints and treasuries and held only for emergency use, such dollars on storage being more available for use in an emergency, but otherwise having no influence on nominal or real values of any kind. An advance in the price of commodities may be caused by many reasons and may be oftentimes the cause rather than the effect of a change in the value of the money standard.”—FRANK J. SYMMES.

“As to the amount of depreciation I have made no such study as would justify the expression on my part of a defi-

nite estimate. But it is my conviction, from such study as I have been able to make of that question, that the dollar of to-day does not purchase more on the average than seventy-five cents would ten years ago. I feel sure the American dollar has lost *at least* twenty-five to thirty-three per cent of its purchasing power.”—J. A. TILLINGHAST.

“Tables of index numbers of prices are supposed to indicate variations in the purchasing power of the standard value,—at least in terms of the commodities concerned. Those given by the Department of Commerce and Labor show that the index number of prices advanced nearly forty-four per cent during the decade from 1897 to 1907. It should not be assumed, however, that prices are that much higher than the average for the past several decades. Eleven years ago prices were much lower than in previous years and very much lower than the average for the last half of the nineteenth century.”—EDSON NEWTON TUCKEY.

“About twenty per cent.”—E. B. WALLER.

“The answer can only be rough, because of the defective collection not so much of prices as of quantities and the incorrect methods employed in averaging them.

“But if the Labor Bureau’s figures be accepted, they indicate a depreciation of the American dollar between 1897 and 1907 equal to the inverse of the rise of the index figures, $89.7-129.5=.693$, by 30.7 per cent. But the Sauerbeck figures for English money, show only a rise of general prices from 62 in 1897 to 80 in 1907, which means a depreciation from 1.00 to $62-80=.775$, by 22.5 per cent. The English depreciation need not tally with the American, but the divergence is not likely to have been so large, and part of it must be due to error in either or in both of

the computations. If we put the American depreciation at twenty-five per cent, we should probably be well above the truth. Now corresponds to a rise of general prices by thirty-three and one-third per cent."—C. M. WALSH.

"This can only be told by a careful comparison of prices in this and other gold standard countries during the year and a study of changes in monetary conditions in the different countries due to additions of paper money; for it is well established that the issue of paper money in any one of the gold standard countries, by forcing out some part of its gold, may affect the value of the currencies of other gold standard countries and prices in all such countries.

"In support of this principle I refer to the first Bullion Report of 1810 and the writings of Ricardo, Lord Overstone, Mill and others."—A. J. WARNER.

"So many factors enter in the problem of prices that even if the gold production has contributed, this question could only be guessed at. Personally I think the gold production so far has been only a factor in the recent business stimulation, and not the whole or even the larger part of the cause. Economists were almost a unit, in 1896, that the declining prices could be explained without reference to the stationary gold production and the demonetization of silver. We had more evidence and a longer period of observation then than now."—D. C. WESTENHAVER.

"Don't know."—HORACE WHITE.

"Average prices have quite certainly advanced not less than twenty-five per cent or more than fifty per cent since July, 1897. To answer your question directly, therefore, I should say that the American dollar has depreciated,

since 1897, to the extent of thirty-three and one-third per cent to twenty per cent of its then value. As I understand it, the two sentences above carry the same mathematical meaning.”—GEORGE RAY WICKER.

“I know of no more reliable data on which to make a reply than the statistics you have quoted. It is a problem of averages purely.”—M. S. WILDMAN.

“On the basis of figures you have given it is 135-110 for railroads, as indicated under question seven on page four.”—A. B. WOODFORD.

“Best indication of the depreciation that we have is the index numbers prepared by the Government and by various publications.”—LESTER W. ZARTMAN.

ANSWERS TO THE FIFTH QUESTION.*

"I cannot answer."—T. S. ADAMS.

"The obvious conclusion is that wherever prices have not been adjusted to the depreciated dollar there has been a *real* decline in such prices."—EUGENE E. AGGER.

"In nearly all cases where prices and wages have been advanced in terms of dollars and cents the advance has been nominal only."—E. BENJAMIN ANDREWS.

"Wages and prices that nominally remain as before, are in fact lower when they are considered in relation to the general well-being."—C. C. ARBUTHNOT.

"The adjustment of wages generally goes on more slowly than that of commodities but as the last move of commodities was down, after a long rise, probably the adjustment just now is more advantageous *per diem* than usual *for those working*, but they are doing so much better work than in the don't care atmosphere of a year ago that per service rendered, they are probably not receiving more than then in purchasing power and perhaps not as much."—N. T. BACON.

"Competition is not free. The Government, in controlling the production of the medium of exchange, virtually forbids the exchange of labor's products unless the

*The fifth question was: "*What effect has this depreciation of the American dollar (if it has depreciated), produced as to wages or prices which have not been fully adjusted to the diminished value of the standard?*"

producers pay a toll for the right of exchange, under the guise of interest on money. Owing to this tax on exchange, a portion of the wealth produced by labor is abstracted by non-producers and wages instead of being equal to the value produced by labor, equal this value, minus the amount (from thirty to fifty per cent) which with the connivance of those that formulate our banking laws, is abstracted by non-producers, from the real producers. ('Wages' is here used in the economic sense, meaning recompense for 'labor' whether performed by workmen, foremen, employers, clerks, merchants, teachers, etc., etc.)"—HUGO BILGRAM.

"Variations in wages and prices usually have their individual proximate causes. A depreciation of money tends to increase prices and wages when expressed in dollars. Money depreciation would show by the general and uniform increase in wages or prices."—JOHN BALCH BLOOD.

"Wages and prices which have not been raised to meet the depreciated dollar have, in effect, suffered an actual and real decline, although not a nominal decline."—JAMES E. BOYLE.

"It has lowered them."—CHARLES J. BULLOCK.

"It has lowered them."—VICTOR S. CLARK.

"There has not been a uniform adjustment. In the building trades in some cases I think the adjustment has been more than made. Some forms of union labor have forced wages to points that are truly monopolistic in their character. Other forms still lag behind."—J. W. CROOK.

"Virtually lowered them."—F. R. CLOW.

"Prices have gone up and wages down. Some would say that the value of the dollar has *appreciated*, but I mean relatively to prices, the dollar's purchasing power, or real value, has declined."—F. S. CRUM.

"Incomes and prices which have remained fixed nominally have really fallen."—JOHN CUMMINGS.

"A real and serious depreciation."—H. T. DAVENPORT.

"Impossible to define in exact terms."—DAVIS R. DEWEY.

"(a) It has reduced the real wages of course, if nominal wages have remained constant or have not advanced proportionately.

"(b) I again object to the use of price in two senses. Assuming, however, that the price of an article in 1897 was the same as it was in 1907, I should think that something must have happened to lower the cost of its production, or that the producer would be making less profit per unit of output than before. I should, however, want to see his bank account before deciding off-hand that he was being ruined by charging the old price."—CARROLL W. DOTEN.

"Every depreciation of money unless extended over a very long period has unequal effects on wages and prices for the time being. Should general prices and wages rise commodities produced in industries where fixed capital is largely employed furnish relatively a larger profit. It takes time, sometimes a very long time, for these price changes to become adjusted. All industries where there are fixed charges and rates are likely to suffer."—GARRETT DROPPERS.

"All whose wages or whose prices for commodities produced have not kept pace with the rise in prices of the things they buy are by so much poorer than in 1897, with this important exception, namely—employers who by various improvements, such as electrification, utilization of byproducts, more efficient organization, etc., have reduced the expenses of production may be better off in spite of the failure of the thing they produce to advance as rapidly in price as the prices of other commodities."—C. F. EMERICK.

"Do not know."—A. B. FAIRCHILD.

"The depreciation of the American dollar has caused a decline in real wages or prices in all cases where the wages or prices have not been fully adjusted to the diminished value of the standard by a corresponding rise."—FRED R. FAIRCHILD.

"The effect is a depreciation of the real income of the laborer or the person who lives by selling at the prices which have not yet been adjusted."—WILLARD C. FISHER.

"Has caused them to fall relatively."—J. D. FORREST.

"Wages and prices that have not increased sufficiently to compensate for the depreciation have, of course, relatively fallen."—GEORGE P. GARRISON.

"Such wages and prices have relatively decreased."—DAVID I. GREEN.

"It has undoubtedly meant that laborers whose money wages remained constant or rose less than proportionately have received less real wages."—LEWIS H. HANEY.

"The effect of this depreciation has been to lower in effect the wages and salaries of those receiving stated compensation. In the large majority of instances that have come under my observation, there has been little or no increase in such compensation, and outside of cases where there has been legislation on the subject principally as to public officers, I know of very few instances where the adjustment of wages has been sufficient to meet the depreciation."—W. O. HART.

"Wages and prices of services and commodities the production of which does not involve a considerable element of immobile labor or fixed capital, or the control of which is not in the hands of a monopoly, have automatically adjusted themselves to the changing standard. Specialized labor and capital and monopolies habitually exacting the price of maximum returns are liable to suffer a disproportionate nominal return and a decreased real return."—R. H. HESS.

"Some laborers have suffered because of the lessened purchasing power of their wages.

"Some producers have also suffered but not to same extent as laborers. Brief answer impossible."—JOSEPH FRENCH JOHNSON.

"Correct answer to this question depends upon the meaning of the words 'adjusted to the diminished value of the standard.' If a man's wages have not increased proportionately to the prices of *the articles he has been accustomed to buy*, his actual income is reduced.

"A concern may, of course, be paying higher wages and higher prices with as great a profit as before, if its business has materially increased, or if improved methods of production have been introduced."—E. W. KEMMERER.

"If nominal wages have not risen in the past twelve years in the same proportion as prices, then real wages are not as high as they were in 1897. The effect is a lower standard of living wherever this has happened, a worse condition for the wage earner."—DAVID KINLEY.

"It is manifestly unfair not to increase wages and prices so they will be fully adjusted to the diminished value of a dollar."—M. A. KURSHEEDT.

"Prices appear to have risen somewhat more than wages—the per cent of increase in reliable tables shows this."—CHARLES H. LEEDS.

"In this instance the depreciation in the standard of value, I should say has affected prices in the following order:

"1. Securities.

"2. Commodities which are dealt in on the Produce and other exchanges.

"3. Other commodities which are handled in large quantities, such as steel rails, brick, lumber, and the like.

"4. Manufactured products in retail lots.

"5. Wages.

"6. Railroad rates.

"I am inclined to think, although this statement can be verified so far as I know by detailed statistics, that the prices of all these goods have been adjusted to the changed standard with the exception of some grades of labor and railroad rates."—W. H. LOUGH, JR.

"In such cases the 'nominal' increase is a 'real' decrease."—ROSWELL C. MCCREA.

"Wages and prices which have not been fully adjusted to the diminished value of the standard have actually decreased."—JOHN MARTIN.

"Of course if the dollar has depreciated twenty-five per cent and a laborer receives the same money wage in 1908 that he received in 1897, he really receives only three-fourths as much purchasing power."—ROYAL MEEKER.

"It has made them of less worth. Unadjusted, constant, wages or prices (proceeds of sales of commodities), are apparently unchanged; but in reality they are lower, since their general purchasing power—general wealth-commanding power—is reduced."—CHARLES W. MIXTER.

"This question should be reversed, viz.: what effect has the increase of wages and increased prices of commodities had upon the dollar. *Ans.* Lowered its purchasing power.

"This problem is very simple when we regard the dollar as a *fixed standard* which it is. Would it not be exceedingly uncertain in commercial dealings if a yard measure, a peck, or a pound were only a half-yard, a half-peck, or a half-pound to-morrow? *These measures do not change, but the goods measured in these standards fluctuate in price. So with money, as a measure of value, it does not change.*"—JAMES B. MORMAN.

"The real depreciation which the United States dollar has undergone since 1897 is its decrease in subjective value, or the loss which its possessor would subjectively suffer, when measuring that loss as a percentage of income. This loss is many times greater for the laboring class than for people of ordinary means, and when compared with the losses of the rich it is so great that a question arises in my mind whether a real depreciation in the value of increments of income above \$10,000 has any reality. From this point of view wages do not seem to me to have fully adjusted themselves to the diminished value

of the standard. An increase of forty per cent in the nominal wages of railway employees on this account alone would to my mind be nothing too high. As regards prices which have not adjusted themselves to the diminution in the value of the dollar, I am of the opinion that wages in the industries concerned have lagged behind in adjustment. The value of labor is determined by the value of its products, and it seems to me that abnormally low prices must tend to produce abnormally low wages."—GEORGE S. MOYNAHAN.

"They have fallen and the loss, per unit of labor or product, to the laborer or producer, is measured by the diminution in the purchasing power of the wages or prices received per unit of labor or product."—H. T. NEWCOMB.

"Since *real wages* depend on the *general level of prices*, they *have suffered* where they have not kept pace with the average price of goods.

"This is not true of prices and rates."—L. W. PARISH.

"The prices are probably fairly well adjusted by now, but many wages, and especially the great number of salaried incomes, have not received the full benefit of an increase proportionate to the fall in value of money. Here again a definite statement is well nigh impossible."—JULIUS H. PARMELEE.

"The wage earner whose wages have not become adjusted to the increased prices is a loser. If prices have gone up fifty per cent he can command only sixty-six and two-thirds as much of this world's goods as he could in 1897. The bondholder receiving a fixed contract rate of interest, likewise suffers as the purchasing power of his five per cent interest decreases. He could buy more goods with the dollars that he loaned in 1897 than with the same

number of dollars returned to him ten years later. Measured in goods his principal has decreased thirty-three and one-third per cent."—WARREN M. PERSONS.

"Reduces them."—CARL C. PLEHN.

"It would have the same effect as a fall in the relative prices or wages. For example, a teacher who got \$2,000 a year in 1896 and is still getting \$2,000 has really suffered a decline in salary of not much less than \$500.00. Of course, the same reasoning is true of railway rates. If you charged \$10.00 for a certain haul in '96 and to-day are charging \$10.00 for the same haul, rates have really fallen, when prices and wages are taken into account, which are in daily constant adjustment to the monetary standard."—JESSE E. POPE.

"All fixed or difficultly modified prices (as wages, published or legal rates, etc.) have virtually lowered."—H. H. POWERS.

"This depreciation has affected prices as a whole far more than wages, as prices respond to such changes far more readily than do wages; and wages of organized labor, more readily than unorganized. Doubtless, prices, as a whole, have so changed as fully to reflect the depreciation of the gold. Real estate and railroad properties do not yet reflect fully the change made; and wages, but little."—L. G. POWERS.

"Wages or prices, which have not increased so as to keep pace with the depreciation in money, have actually fallen."—LAWSON PURDY.

"It has generally raised nominal wages and prices, but in many cases the real wages and prices have slightly decreased."—CHARLES LEE RAPER.

"The corresponding sellers of services and of goods are worse off."—WALTER T. RAY.

"This is a simple question of decreased purchasing power of wages on an old standard. Government salaries, for instance, fixed by old statutes are entirely inadequate for modern demands on the incumbents."—GARDNER RICHARDSON.

"My impression is that, unless in a few most favored mills and localities, factory wages have not been adjusted. The range of virtual sweating scales and bases of payment has probably been extended, and the margin for insurance and comfort been narrowed.

"The rates for services rendered by some of the larger and the monopolistic corporations, were already so high, relatively, that the depreciation of the dollar has only tended to normalize them. The like may be true of a few exceptional pay-rolls or parts of pay-rolls."—PHILIP A. ROBINSON.

"Real wages are lower in that proportion—except that the statistics do not include rent and refer to wholesale rather than retail prices—in occupations where 'nominal' or money wages are unchanged. Commodities whose prices have not risen in this proportion have fallen in value measured in commodities generally."—HENRY R. SEAGER.

"The depreciation of the dollar is seen in its diminished purchasing power, or, which is the same thing, the general rise in prices. But prices do not all rise equally or simultaneously. It follows that any class is placed at a disadvantage as compared with other classes, if the thing which it produces or sells is influenced less by the rise in prices than are the things which that class must buy. The

wage-earner gains something in the regularity of employment which accompanies rising prices, but the tardy adjustment of money wages to the new level of general prices tends to lower his real wage."—J. ALLEN SMITH.

"It has had the effect of lowering real wages and prices of competitive goods."—N. I. STONE.

"It would lower the return per unit. Such a lowering may be no more than is just and should have otherwise been brought about owing to other factors that enter into prices or wages."—GEORGE S. SUMNER.

"The depreciation of the dollar is in proportion only to the increased amount of *money per capita in actual use* and which may vary in different localities and at different times."—FRANK J. SYMMES.

"Of course it has had the effect of reducing the *real* income in that which money merely enables us to get for our labor or commodities. Yet the process by which this reduction comes about is so concealed and gradual that the masses do not appreciate the situation."—J. A. TILLINGHAST.

"Wages and prices which have not risen in proportion to the decrease in the purchasing power of the dollar constitute proportionately lower purchasing power, or exchange value in terms of goods and services."—EDSON NEWTON TUCKEY.

"Reduction."—E. B. WALLER.

"We can hardly speak of prices not being adjusted, since every price is an element in the measurement of the depreciation of the dollar. The adjustment of wages

means that, for wage-earners to hold their own in competition with other income earners and income receivers, wages ought to rise in the same proportion as general prices, and if they have not done so, this is a fall in the rate of real wages, which means that wage-earners are suffering on account of the behavior of the monetary standard and that employers of labor are gaining at their expense."—C. M. WALSH.

"The adjustment of wages and prices to a changing value in money, even in industries in which wage-scales are most easily changed, is a slow and difficult process and hence the importance of preserving the utmost stability in the value of money. In my opinion there is no problem more important before the world."—A. J. WARNER.

"Depreciation of the dollar does not, of itself, produce any effect on wages. The wage earners produce the effect by demanding an increase, although in some rare cases the employers anticipate the demand and make the increase voluntarily."—HORACE WHITE.

"Obviously, quite obviously, it has cut from thirty-three and one-third per cent to twenty per cent off from the real wages, where no adjustment has taken place. Adjustment, therefore, would take place within these limits of discount and parity. In many cases other independent forces have brought real wages above the '97 level."—GEORGE RAY WICKER.

"Lowered them."—M. S. WILDMAN.

"Lowered them, of course, in the exact proportion in which they have not been fully adjusted."—A. B. WOODFORD.

"Virtually to lower them."—LESTER W. ZARTMAN.

ANSWERS TO THE SIXTH QUESTION.*

"I do not know. I am not an expert in this particular field."—T. S. ADAMS.

"No."—EUGENE E. AGGER.

"No, neither then nor now—

"1. In proportion to the charges for transportation by other methods than by rail in this country.

"2. In proportion to the charges for similar services in other countries.

"3. In their proportion to the retail cost of the articles transported.

"4. In the profits derived from them in proportion to the profits derived from other business enterprises involving similar current expenditures."—W. F. ALLEN.

"A very difficult question. I am inclined to think they ranged too high in consequence of the same sort of causes, acting in the opposite direction which now tend to render them too low, *i. e.*, gold was appreciating from '73 to '97, and gold prices that did not apparently fall were really growing higher and higher."—E. BENJAMIN ANDREWS.

"If the general level of railway rates as indicated by the average percentage earned by the roads throughout the United States upon the capital invested is of value as a criterion, I am inclined to think that the rates of 1897 were not too high."—C. C. ARBUTHNOT.

*The sixth question was: "Were the freight rates charged by the railways of the United States in the year 1897, in your opinion, generally too high?"

"No, except in special cases. On the average our rates have been better than in any other country, and the service better as well.

"On the other hand, real rates should have declined during this period to produce the maximum profit to the stockholders, as at that time the rails were not fully employed and it was to their interest to stimulate traffic. We are now entering another stage where it will be necessary to raise real rates to reduce traffic, as the facilities are becoming overtaxed, and it is difficult to increase them, owing to the prohibitory cost of terminal facilities."—N. T. BACON.

"The reports of railroads and statistics bearing on this subject available to the public are such that it is hard to determine what are proper freight rates. Much evidence that has come out recently with reference to rebating would indicate that the rates in 1897 were too high. Evidence also with reference to the issuance of securities against railroad properties is such as would indicate that considerable amount had been paid in dividends on securities which originally did not represent capital, which would tend to show that the rates of 1897 were too high."—JOHN BALCH BLOOD.

"Considering freight rates here and abroad, I would say 'No.' I believe the public never felt rates were too high, but only that cases of discrimination, rebates, etc., made them unequal and hence unjust."—JAMES E. BOYLE.

"My opinion on this point would be of little or no value. An intelligent answer to this question would require a detailed and exhaustive statistical investigation. The important point is not whether rates are too high or too low. The question is, are they discriminating in 1908, or were they discriminating in 1897?"—JOHN E. BRINDLEY.

"In general I suppose that freight rates were not excessive ; but there may have been numerous cases in which they were so."—CHARLES J. BULLOCK.

"I do not see how any unqualified answer can be given to this question. It might be answered as to specific rates, in their relation to the prosperity of particular industries ; and to average rates in their relation to railway income ; but I am not sufficiently informed of rates in these two relations to venture an opinion for the railways of the entire country."—VICTOR S. CLARK.

"I am unable to answer."—F. R. CLOW.

"I am unable to figure this out, because I have no data which enables me to get at the true value of the various railroad investments. Since freight rates charged must or ought to yield a sufficient profit upon the investment to correspond with other investments, the true value of the investment is an important, and indispensable matter. Then, too, different localities are differently affected. Speaking, however, of rates on special articles I would say that if the rates existing in 1897 still obtained, many present establishments would not have been built up. This is especially true of interstate rates."—MORRIS M. COHN.

"I should not say so. When we remember the drastic period just preceding and the period just at the present and other poor earning periods to come, and the great difficulty of finding the organizing ability of a Hill or a Hariman, the rates were not too high."—J. W. CROOK.

"Not as a rule."—JOHN FRANKLIN CROWELL.

"Not prepared to say."—F. S. CRUM.

"They were probably determined then, as at other times, largely by consideration of what the traffic would bear, and by competition. A railroad rate, whatever it be, is bound to be at any given time, both too high and too low—too high from certain points of view and for certain purposes; too low from other points of view and for other purposes. The phrase 'generally too high' has no meaning except with reference to these specific ends and points of view."—JOHN CUMMINGS.

"Here again I will not venture on an opinion unless I am sure that we have a common standard of what constitutes too high a level of freight rates. In general, freight rates are too high if they prevent the moving of the normal volume of products, or if they afford a net profit in excess of a proper return upon the actual capital invested and the risk involved in building and operating railroads. They are too low, if they afford so low a margin of profit as to make the building or operating of railroads unprofitable in the long run. Competent and unbiased transportation experts will judge, in accordance with these general tests, whether rates in 1897 were too high."—W. M. DANIELS.

"Not for the volume of business then handled."—H. T. DAVENPORT.

"The consumer will generally think prices are too high. I do not see what absolute standard can be used as a test."—DAVIS R. DEWEY.

"This is too large a question to answer off-hand. Some doubtless were and some were not. What do you mean by too high? Is it too high to enable industries to develop and prosper, or too high to result in the largest profit to the railroads or too high because the railroads were enabled thereby to make excessive profits?

"It seems to me that this method of approach to your real point is utterly futile and even if it were not it would be absolutely inconclusive. You have got to prove first that railroad charges were reasonable in 1897 and after that by a long series of inferences that the same rates or practically the same now are not reasonable because they are unjust to the railroads. All that such a comparison can possibly amount to is to show that there has apparently been a reduction in the cost of transportation to the shipper when rates are compared with the prices in which he sells his goods. Whether this is more or less of a reduction than should have been made in justice to all concerned must be decided on other grounds than a mere comparison of wage and price levels."—CARROLL W. DOTEN.

"I do not know. Freight rates are a very complex affair. Speaking generally I should think that the rates on staple products over trunk lines were not high in 1897."—GARRETT DROPPERS.

"As to the average per ton mile rate, I think not."—C. F. EMERICK.

"No. Discrimination was the great evil. Some local rates were very high."—A. B. FAIRCHILD.

"The answer to this question must be a matter of judgment. The only persons qualified to give such judgment are those who are experts in railway economics. I do not consider myself competent to express an opinion."—FRED R. FAIRCHILD.

"If by *generally* you mean *universally*, certainly not; if you mean *in many cases*, I should certainly say yes. (The railway business is a quasi-public business; and any rate

is too high which returns to the capital actually invested more than the prevalent rate of income from safe business investments. Just so, any rate of postage is too high if it is much more than the cost of the actual service; and any rate of taxation is too high, if it brings in a surplus which cannot be expended for the common good."—WILLARD C. FISHER.

"Generally not."—J. D. FORREST.

"No. It could well be to the advantage of the country to have rates raised enough to correspond with the depreciation in the dollar."—A. G. FRADENBURGH.

"I believe so."—GEORGE P. GARRISON.

"Perhaps not in general though some were, but the average rates should decrease as the amount of traffic increases."—DAVID I. GREEN.

"In my opinion the average freight rate was not too high. This does not mean that I think all rates were reasonable."—LEWIS H. HANEY.

"Not being in business, I know comparatively little about railroads, but from my reading and general intercourse with business men in this section of the country, the general opinion is that railroad rates were too high in 1897."—W. O. HART.

"As measured by legitimate costs of operation and justified fixed charges the level of rates in 1897 was too high."—R. H. HESS.

"I do not know."—JOSEPH FRENCH JOHNSON.

"I have never made a sufficient study of this question to be justified in expressing an opinion. In 1897 the railroads were quite generally complaining that rates were too low as the result of the depression of 1893-1897; and there was, I believe, a very large increase of rates in 1900.

"A general answer to your question I should think, would be dangerous, because of the different rates (1) on different roads, (2) on different kinds of traffic (through and local), (3) and on different classes of commodities."—E. W. KEMMERER.

"I am not prepared to express an opinion on this question."—DAVID KINLEY.

"I am not sufficiently conversant with the freight rates charged in 1897 to be able to answer this question."—M. A. KURSHEEDT.

"No. Net earnings were not excessive, considering the risks of investment and the supply of capital. And since the real rates have been less, the roads have had difficulty in getting along."—CHARLES H. LEEDS.

"This question, it seems to me, does not admit of any definite answer. I do not know of any standard by which railroad rates as a whole can be decided to be either too high or too low."—W. H. LOUGH, JR.

"Probably not,—considering the need of further and better equipment—at present there is a pressing need of new tracks (*i. e.*, when business was active and when it is again in normal condition). The public demands lower rates which prevents needed improvements and reckless speed which the tracks are not fit for."—ARTHUR T. LYMAN.

"Generally, no."—ROSWELL C. MCCREA.

"This question can be answered only when much additional data are supplied, including,

"(a) The physical value of the roads.

"(b) Their total capitalization.

"(c) Their gross and net earnings.

"But lines are so long and the character of their construction, traffic, etc., varies so widely that any generalization about rates is probably wrong. Each line should be considered separately. Rates that would be outrageously high in New York or Pennsylvania might be ruinously low in Texas or Arizona."—JOHN MARTIN.

"It is not possible to answer this question."—ROYAL MEEKER.

"No."—CHARLES W. MIXTER.

"I do not think they were; but this is a hard question to answer. *'Too high.'* What standard are we to measure by? Did the rates charged bring high dividends to stockholders? If so, the rates were too high; if not, they may have been just and equitable, or, perhaps, too low. But I cannot say."—JAMES B. MORMAN.

"Freight rates charged by the railways of the United States in the year 1897 were not too high. Since, however, there seems to be an abnormal advance in the price of railway supplies and a slight (though insufficient) advance in wages, an advance of freight rates of fifty per cent above those of 1897 would on this account be justifiable were not also another fact operative. This other fact is one not generally recognized. It is the increased efficiency of every dollar passing through the hands of the railways from the point of view of railway technique.

The equipment purchased for \$1.50 to-day is much more effective than the corresponding equipment purchased for \$1.00 in 1897. A fair dividend may therefore be paid to stockholders at a small increase in rates. To determine the proper amount of increase is the business of the Interstate Commerce Commission, or other authorized parties, though the railways may act of their own accord. (See article on 'The Needs of the Railroads' in Political Science Quarterly for September, 1908).”—GEORGE S. MOYNAHAN.

“No. Conclusive evidence that railway charges were not generally too high in 1897, and have not been generally too high since that year, is to be found in the large and steady increase of the per capita consumption of railway services. Unjust exactions cannot coincide with a great and general augmentation of consumption. If railway rates had been too high they would have impeded the local specialization of industrial functions—it is plain that cheap railway transportation has vastly augmented it and had done so by the year 1897. The population of the United States in 1880, 1890, 1895 and 1897, the number of tons of freight carried one mile by the railways in the same years and the number of tons of freight carried one mile by railways per capita of population appear below:

Year.	Population.	Ton mileage.	Ton mileage per capita.
1880	50,155,783	32,348,846,693	645
1890	62,622,250	76,207,047,298	1217
1895	69,043,000	85,227,515,891	1234
1897	71,704,000	95,139,022,225	1327

“In addition, American railways rates were in 1897 as they are at present, the lowest in the world; the lowest consistent with fair compensation to labor, and too low to afford a return to capital equal to that in other industries involving similar risk.”—H. T. NEWCOMB.

"I do not consider myself a good judge of the justice of railroad rates. According to your own basis, *they should have been very low* compared with rates previous to 1890, since general prices were lower between 1890 and 1897 than for many years before. (See statistics by Comptroller of the Treasury, Roberts.)"—L. W. PARISH.

"A stiff question to answer off-hand. Probably not in the main; the conditions in different sections vary too much to admit of a general statement."—JULIUS H. PARMELEE.

"In my opinion it is impossible to tell whether freight rates were or are too high or too low without a physical valuation of the railway properties. The various and intricate methods of financiering used do not make it easy to answer the question, 'What is a reasonable rate?'"—WARREN M. PERSONS.

"Judging solely by the fact that the railroads found it to their advantage to reduce them in face of the depreciation of the currency, yes."—CARL C. PLEHN.

"No, if you will permit me to say so, we suffered from favoritism rather than from high rates. But this is largely of the past. As a whole, railway rates in this country have been very low compared with other countries, and with the difficulties which have had to be overcome."—JESSE E. POPE.

"They probably would be too high now if the dollar had not depreciated. This may have scaled them too much."—H. H. POWERS.

"I have not studied the question of railroad rates sufficiently to give an answer."—L. G. POWERS.

"I don't know. Freight rates should be sufficient to pay the actual cost of production of the railway. When the cost of production of the railway is unknown it is impossible to determine what would be a fair rate."—LAWSON PURDY.

"I am not an expert on the cost of running a railway, but the salaries paid and dividends declared by some of the roads indicate that they were not running at a loss and that those that did run at a loss had mismanagement or the combination of other roads to blame for it. I do not understand that it is the 'general' average of rates which is causing dissatisfaction, but rather the irregularity of rates as between places, persons and times."—H. W. QUAINANCE.

"No, I think that freight charges in 1897 in the United States were very reasonable indeed."—CHARLES LEE RAPER.

"I do not know; probably not."—WALTER T. RAY.

"No—it does not seem to me they were. There was undoubtedly unjust discrimination rife at that period, and exactly what 'the freight rates charged' means is indefinite. Published rates were rebated by more than half. That puts the railroad in a bad light, but still the rates were certainly not inordinate, in comparison to the service rendered at all events."—GARDNER RICHARDSON.

"I would answer, 'no, probably not,' provided we are to accept as normal all the regular and usual disbursements of the railways on account of freight service, or on account of conducting transportation generally. I use this latter phrase, not in the technical sense so much as standing for the railway business in the whole of its economic and political relations."—PHILIP A. ROBINSON.

"No, but general statements, about a problem that is essentially one of intricate details seem to me to be of no great value. No doubt some rates were too high, doubtless others were too low to be fairly remunerative. My negative answer is based on general considerations and is an impression only."—HENRY R. SEAGER.

"This is a question I would not attempt to answer in the time and space at my disposal here."—J. ALLEN SMITH.

"I have not studied this question."—N. I. STONE.

"Not generally. The change in amount of traffic in the past ten years is such that justice demands a lowering of rates in many instances at least as much and in some cases more than any possible lowering of rates from depreciation of money standard—for instance—fixed charges in certain sections can now be divided between twenty trains per day instead of twelve—so warrant a material lower rate per car."—GEORGE S. SUMNER.

"If it is to be admitted that the railways are justified in making rates for the purpose of building extensions and adding increased capital to their business—No.

"If rates are to be made, as in the *final solution of the problem* they must, solely upon the *actual cost of service* directly involved—Yes.

"The building up of feeders to a railway line, the cutting of rates to meet water competition, to be made up by excessive rates to non-competitive points, and the hundred and one reasons upon which railways base their present rates must ultimately give way to a rate based upon the actual cost of service, viz., the cost of terminal handling, operation, maintenance and insurance of the goods on the track alone over which they are transported."—FRANK J. SYMMES.

"I could not give an opinion of any value on this point for lack of experience and information,"—J. A. TILLINGHAST.

"They were probably *not 'generally too high'* although I have not reached a final opinion, as yet, based upon statistical investigation."—EDSON NEWTON TUCKEY.

"Do not know. The great trouble with this whole discussion is that you can not class railroads with other corporations. They have special privileges, sometimes monopolistic franchises. Some railroads are economically conducted. Others have graft for the sons of officials, etc. Again some railroads have watered their stock beyond the unearned increment to which they may be entitled. There is a good deal of dispute about the calculation of railroad rates.

"Your questions are well arrayed to bring out the desired answer (reduction) but you omit the very questions which are in dispute to-day. It is not so simple as you would think it."—E. B. WALLER.

"I have no information on the subject. But it may be noted that the question is the inverse of what might have been asked in 1897 compared with the years 1883-9 when, if Sauerbeck's figures may be relied upon, general prices were as high as they were in 1907. Just as the trend of your questionnaire is to bring out that railway rates are now too low, the result of a similar investigation then made might have shown that railway rates were then too high. And this would have been all the more likely because in 1907 the fall of general prices (the appreciation of money) had been going on not merely for ten years, but for twenty-four (since 1873)."—C. M. WALSH.

"In particular cases, yes, but not generally."—A. J. WARNER.

"Freight and passenger rates were too high then and are too high now, on any system of honest, real capitalization and payment for service rendered."—D. C. WESTENHAVER.

"No."—HORACE WHITE.

"Probably not for the year 1897, with the traffic of that year. Probably not, if viewed in their bearing on the traffic of 1892-1897. For many roads and sections, they may well have been too low. But here I must begin dissent from the economic value of your line of inquiry. Railways are businesses of increasing return to an extent that few other kinds of business share. Railways are naturally monopolies. Therefore, if your inquiry is to determine what are fair rates, from the point of view of the stockholders, you must seek the answer by another route. A low rate measured by proportion of rate to value of commodity carried may be an extortionate rate, from the point of view of net earnings on investment. The significant relation here is not that between freight paid and value of commodity, but between rate and earnings."—GEORGE RAY WICKER.

"Probably not, in general."—A. B. WOODFORD.

"Probably not. The country was just emerging from a long depression, especially for the railroads, and rates in general were low."—LESTER W. ZARTMAN.

ANSWERS TO THE SEVENTH QUESTION.*

"A reduction. Railways might still, however, be making greater profits than in 1897; and present rates might, theoretically, be still too high. It is entirely possible, however, that they are too low. Your real problem, I think, should be settled—and commonly be settled,—in another way."—T. S. ADAMS.

"Undoubtedly a reduction. But this reduction might be offset by improvements in the methods of transportation not involving increased or at least proportionately greater outlays. To understand the effects of the *real* reduction of rates not only wages and the price of the materials must be taken into account but also the effect of these things on your units of costs. It may be that the increase in the volume of business has been much greater (proportionately) than the increase of costs and such a condition might counteract entirely the loss due to a decline in the real rate."—EUGENE E. AGGER.

"Unquestionably a reduction, unless the rule of three is an incorrect mathematical principle."—W. F. ALLEN.

"Reduction of course."—E. BENJAMIN ANDREWS.

"Reduction."—C. C. ARBUTHNOT.

*The seventh question was: "Assuming that \$1.35 will pay for only as much labor of railway employees and as much railway equipment, fuel and other materials as \$1.00 would buy in 1897, and that nominal railway rates had been so adjusted that it required \$1.10 to pay for railway services that \$1.00 paid for in 1897, would the comparison between real railway rates at the different times show an advance or a reduction?"

"On the average about seventy per cent of railroad receipts go for expenses and thirty per cent for interest and dividends and reserve funds.

"On the whole this would show a reduction, and in my opinion just about the reduction called for to produce the best results for the owners of the railroads."—N. T. BACON.

"Allowance must be made, obviously, for improved economy of organization and operation if any, and also for increased purchase of railway service (both passenger and freight, increasing earnings more than expenses) if such has occurred. Elimination of wastes involved in competition or otherwise might offset a larger or smaller proportion of increase of cost though rise of wages and prices or even more than offset it."—EMILY GREEN BALCH.

"The assumptions here are hardly sufficient. When you take into account that the interest rates have gone down, that the efficiency of labor in some cases has increased, that the efficiency and output of recent apparatus is greatly improved, that great economies have been effected by the perfection of organization and the increase in the volume of business over the same tracks, it would seem that, under the conditions named, the real railway rates as compared with labor and commodities were about the same. It is hard to estimate the items of increased economy and the effect of a lower rate of interest, especially as the interest on the bonded indebtedness has nominally remained the same."—JOHN BALCH BLOOD.

"A substantial reduction, in my judgment."—JAMES E. BOYLE.

"On the basis of these assumptions, I believe that real railway rates have been reduced. At least I am willing to

admit that this is true. In your questions, however, you do not make clear to what extent the increased volume of traffic has modified earnings.”—JOHN E. BRINDLEY.

“In comparison with the cost of labor and materials real railway rates would show a reduction. It should not be overlooked, however, that the advance in prices has not increased the amount of money needed to pay interest charges, rentals, and other charges depending upon past contracts.”—CHARLES J. BULLOCK.

“From the point of view of the railway, omitting the possible variation in fixed charges for capital, there would be a reduction of real rates. From the point of view of the shipper, this reduction would be conditional upon a corresponding advance in the nominal price of the commodities shipped.”—VICTOR S. CLARK.

“A reduction.”—F. R. CLOW.

“I think to answer that question intelligently and to carry weight would require that one be a railroad expert and an expert accountant. On the face of it, it would look as if the rates were reduced.”—J. W. CROOK.

“The comparison would show an advance but not a corresponding advance to that in cost of labor and materials.”—JOHN FRANKLIN CROWELL.

“A reduction of from twenty to twenty-five per cent.”—F. S. CRUM.

“From point of view of the railroad, to the extent that the wages of labor of railway employees enters into cost of service rendered, real rates have fallen. This might be neutralized by reductions in other items of railroad ex-

penditures. So far as the community is concerned, railroad rates have fallen only in so far as general prices and incomes, including wages, generally have risen more than ten per cent.”—JOHN CUMMINGS.

“If these were the only factors involved, President Hadley’s statement quoted in your enclosure would cover the case. But, if what I can learn from certain shippers be true, they now very commonly pay the published rate, and in 1897 and until recently they often obtained a rate below the published rate. So that the actual rate paid, and not the printed tariff must be considered. If the actual rate per ton mile received be taken as the basis of comparison, it is incumbent on the roads to disclose to what extent the roads paid a low rate on commodities such as coal in which railroads had an indirect interest. Moreover, if a decline in the rate per ton-mile permitted such an expansion of traffic that net receipts showed a gain, I do not see that the carriers should complain that the price paid per ton-mile had declined while articles of commerce commanded a higher price per unit. In short, the rightful grievance of the carrier, if he has one, should be directed not to showing a fall in the price paid for transportation per ton-mile (whether or no other producers are or are not getting more per unit of output) but to showing that net profits accruing to carriers are affected unfavorably relative to the net profits of producers generally.”—W. M. DANIELS.

“But the fact that while other marketed facts have averaged a twenty-five per cent advance in market price, railroad properties have scored several fold this increase as expressed in stock quotations and as based on increased dividend-paying power, proves that at the new volumes of traffic, the rates and the net earnings of the later years were over high. It may, of course, be justi-

fiable, with advancing wages and raw materials, to raise the transportation rates; whether this is true or not must depend upon whether the economies attendant upon increased traffic are sufficient, per unit of goods transported, to offset the higher levels of expenditure. The trend of dividends from 1897 to 1907 is fairly definite in reply upon this issue. It is ultimately the purchasing power of *dividends* that should be stable.

"What may justifiably be done in 1908, when the prices of the cost items have somewhat fallen and at the same time the volume of traffic has contracted is a more intricate problem. Doubtless if the decrease of traffic could fairly be regarded as permanent the foregoing analysis might justify an increase in rates. As an expedient, however, for offsetting a temporary diminution, such a raise would be parallel to the action of a wage-earner who should demand double his earlier wages on the ground that he was able to work only half time; socially speaking this principle would lead to an *impasse*.

"If the railroads are really menaced with receiverships through a temporary restriction of traffic, this must mean merely that they have been allowing their capitalization to run overfar in the direction of fixed-charge forms instead of toward stockholdings."—H. T. DAVENPORT.

"Viewed in one way, this question is too simple to require an answer, but I object to the application of the rule of three to such a complicated question as this. If this sort of figuring is permissible, let us do away with high salaried traffic managers and turn the office boy loose with a slide rule, and old schedule of rates, and the latest table of index numbers whenever a readjustment of railway tariffs seems to be desirable. If you want to prove that railroad rates should be increased in 1908 or in any other year, show that they were too low in 1907 to be properly remunerative on the basis of the real invest-

ment in railroads and don't attempt the impossible task of proving or assuming that they were all right ten or twenty years ago, with the exception that all the rest of your argument can be taken for granted."—CARROLL W. DOTEN.

"Such a comparison would presumably not at least show an advance. But the income of railways is not determined merely by the rate charged but by the volume of traffic. In a general way there is an impression that the railways are doing pretty well—in view of the present condition of industry—and I fear that an advance in rates would be resented. If there were an absolutely impartial tribunal which would determine rates on scientific lines (as indicated in the present inquiry) the case might be different. But trained and scientific judgment in these matters is hardly known in this country, and when urged is often denounced. In some measure the railways have themselves to blame for this state of things."—GARRETT DROPPERS.

"I think a reduction. The foregoing line of thought seems to me stronger against a reduction in nominal railway rates than it is in favor of an advance. At least it shows that the railways have shared with the public the economies of the last ten years. Whether the railways have shared too generously with the public so that they are fairly entitled to advance rates at the present time is a point upon which I would not presume to pass without detailed study. The extent to which the carriers have shared their economies with the public, the effect of an advance in rates upon the volume of traffic, the disturbing effect upon industries in general, the effect upon returning prosperity, these with other things should be taken into the account along with the depreciation of gold."—C. F. EMERICK.

"Under the conditions assumed above, real railway rates would certainly show a reduction since 1897. With regard to your whole problem, allow me to say that I feel there can be no question as to the fact of the depreciation of the American dollar since 1897 and of the fact that railway rates have not risen to correspond. Assuming that railway rates were equitable in 1897, it would follow that an increase in rates would be equitable to-day. This conclusion, however, depends entirely on the judgment as to the fairness of rates in 1897, and I do not wish anything that I have written to be construed into an expression of opinion that the railways would to-day be justified in raising their rates."—FRED R. FAIRCHILD.

"There has been real reduction, if rates (nominally) have advanced less than the (nominal) advance in general prices and wages (and other incomes) of those who pay railway rates, even if railway equipment, fuel, etc., had not risen in this ratio. That is the rise or fall of railway rates is primarily a rise or fall to the public not to the railway. Whether or not this rise or fall corresponds to rise or fall of railway operating expenses is another question concerning which I have no special knowledge."—IRVING FISHER.

"It all depends upon how much railway service a given amount of railway line and equipment now performs. By amount, I mean value invested, with some allowance for the slight element of risk in rational railway construction. If, for example, the density of freight traffic has doubled, then the nominal railway income has increased from one dollar to two dollars and twenty cents, that is, by one hundred and twenty per cent; and although the cost of what railways purchase has increased thirty-five per cent, the real railway income has increased much. And this is the sort of comparison we make, or should make, when

we distinguish nominal from real wages and nominal from real prices. In my judgment, your questions taken together, make an improper use of the term *rates* in suggesting a close analogy to wages.”—WILLARD C. FISHER.

“Reduction.”—J. D. FORREST.

“A reduction.”—A. G. FRADENBURGH.

“A reduction.”—GEORGE P. GARRISON.

“It would indicate a reduction.”—DAVID I. GREEN.

“Other things remaining equal the comparison would show relative reduction.”—LEWIS H. HANEY.

“I cannot answer this question, giving the situation as a whole. To the best of my information, railroad rates require just as much adjustment and review at this time as does the tariff, and I believe on careful investigation it will be found that many railroad rates should be increased, and that many more should be reduced. In other words, a general adjustment as to time, distance and commodities is necessary and advisable to do equal justice to the railroads and to the people.”—W. O. HART.

“It would undoubtedly show a reduction in value received for service rendered by transportation companies. But reasonable economy—operation, higher prices for subsidy lands received free and held without cost, and the concession of over-capitalization of properties tend to mitigate the apparent injustice of depressed railway charges and earnings—in the face of advancing costs of operation and maintenance.”—R. H. HESS.

“Reduction.”—JOSEPH FRENCH JOHNSON.

"Such a comparison would show a substantial reduction if the character of the materials used, and the character of the services rendered to the railroads and by the railroads at the two periods were essentially the same.

"In the interpretation of this answer it should be noted that (1) a long haul is cheaper per ton-mile than a short haul and that the length of the haul has shown a tendency in recent years to increase, (2) that low grade traffic can be handled more cheaply than high grade traffic, and that there has been a tendency in recent years toward an increasing proportion of bulky traffic and (3) quoting the Report of the United States Industrial Commission (XIX, p. 277): '* * * * Increase in the volume of business enables the railroad to perform the service at a constantly decreasing cost. Reliable computations show that from two-thirds to three-fourths of the expenses of railroad operation are entirely independent of the amount of traffic moved. This being the case, such expenses having once been covered it costs the railroad for additional business little more than the mere cost of conducting transportation, as it is called. As a result, any increase of business above a certain figure, yields far more than a proportionate rate of profit.'—E. W. KEMMERER.

"The statistical answer to this question is that real railway rates show a relative reduction. By statistical answer I mean the answer which one has to give if he considers society as a whole paying for railway services. The conditions described might exist, however, and represent an advance for individual shippers. This would be the case where the price of the product of the individual shipper had not advanced proportionately with the price of other things, including railway service. There might, on the other hand, be shippers whose products had so advanced in price that, relatively to the value of the railway

service to them, \$1.10 might be a less proportion of their cost of production than \$1.00 thirteen years ago. In other words, the answer that there is a relative reduction is an average answer, and an average answer might not fit any individual.

"Moreover some railway service may be rendered at smaller cost of production to the railway than it was thirteen years ago, even though the prices of equipment and labor had gone up. Improved processes might offset the increased cost due to these higher prices. This is a question of fact to be determined before a conclusive answer can be given to your question."—DAVID KINLEY.

"I can only answer this question as I answered question No. 6. Allow me to state, however, that the cost of transporting freight on railways in this country depends not only on the wages paid for labor and the expense of equipment and fuel, but it depends also upon the amount of freight to be transported, and the condition of the railways, and their rolling stock."—M. A. KURSHEEDT.

"A reduction. This seems to be a 'catch' question for the purpose of ascertaining whether we, who fill out these blanks really grasp the difference."—CHARLES H. LEEDS.

"Reduction."—W. H. LOUGH, JR.

"The comparison would show a 'real' reduction in rates. This reduction was probably justified by increase in volume of traffic (up to 1907) and by recurring economies of administration and management."—ROSWELL C. MCCREA.

"Assuming the facts as stated, evidently the real railway rates have declined unless the current rates of inter-

est on securities similar in character to railway bonds have declined, which was not the case between 1897 and 1907.

"But this comparison does not indicate what is a 'fair rate' because the standard of comparison, the average rate in 1897, is not known to have been fair, and a 'general rate' is delusive because the circumstances of railways vary."—JOHN MARTIN.

"Comparing 1897 with 1907 the figures would certainly show a reduction in real railway rates. Whether the relative reduction is greater than the public has a right to demand from railways is another question. Density of traffic and the kind of traffic are all important. Back loading and low rates on heavy cheap freights bring down the rate per ton-mile, simply by employing the plant more nearly up to its capacity. As long as the railroads find that it pays to carry this traffic at the cheaper rates, there is no occasion to push the rates up. It must not be forgotten that the transportation business is a quasi-public business. Changes in rates must be made with caution. For that reason, I favor a physical valuation of the roads, not as a means of attacking the railroads, but as a means of protecting them if necessary against legislative raids, by determining the vexed questions, propounded by the Supreme Court, but never answered by that august body, as to what is a reasonable rate, a fair income, and a just basis for estimating both rates and income."—ROYAL MEEKER.

"A reduction. In an unpublished article on railroad rate regulation written two or three years ago, it so happened that I anticipated the answer to this question as follows: 'At a time when the general purchasing power of money is declining (as it is with us now) an advance of the average money price charged for transportation not

out of line with the general advance of prices, is no real advance of rates at all. A slight advance of prices of transportation which is less than the average advance of prices of other things bought and sold (which has recently taken place on our railroads) constitutes actually a decline in rates. The railroads are performing the same social service, in these circumstances, for a smaller real recompense.' ”—CHARLES W. MIXTER.

“According to the data at hand and the hypothesis presented, real railway rates have steadily decreased. Of this I think there can be no question.”—JAMES B. MORMAN.

“On the supposition that there were no improvements in the technique of the railway business, and that real railway rates are as I have defined them, the data furnished in your example, if I understand it correctly, would indicate a real reduction of twenty-five per cent along side of the nominal increase of ten per cent. As the improvement in technique is a factor to be reckoned with, I think that all things considered there would still be a reduction.”—GEORGE S. MOYNAHAN.

“A reduction looked at from the point of view of the railway, the railway employee or the producer of railway equipment, fuel or materials. To discover the real extent of the reduction from the point of view of the railway, it would be necessary to ascertain the rates of return to capital in the respective years, and the relative importance of payments for the use of capital as compared with those for labor and supplies.

“The data given in this question do not show whether rates have fallen when measured by the labor or commodity cost of the services obtained to those who obtain them, but other figures in your circular letter and other

statistics of wages and prices prove that they have—that is to nearly all purchasers of transportation.”—H. T. NEWCOMB.

“It is right here, so it seems to me, that your whole argument breaks down. It does not follow because wages and materials of equipment cost more than in 1897, that the *cost of a unit of transportation is greater*.

“1. Does not a train of say twenty cars and one engine, with regular appointment of men and fuel, do *much more* business and bring in *much larger total cash returns, when well patronized* as it has been since 1897, than it did when practically empty, as it was before 1897?

“2. Does not an improved engine hauling a much longer train bring in *cash returns larger in proportion* than did the smaller engine and its shorter train?

“3. Does not the roadbed, carrying *twice as many trains a day* pay its own share of the expenses of transportation and leave a larger surplus to reduce the real expense (per unit of weight and distance) of transportation?

“4. For these and other reasons may not the real profits of the railroad be greater at the same rates even though the general prices be higher?”—L. W. PARISH.

This is a mere question of mathematics, provided interest rates remain at the same level as in 1897. The answer is clearly: you have a reduction.”—JULIUS H. PARMELEE.

“According to the hypothesis, the real railway rates would certainly show a reduction.”—WARREN M. PERSONS.

"If your answer states conditions		
"Variable expenses	66 x 1.35	\$0.89
"Fixed	" 34 x 1.00	.34
		\$1.23
"Rates		1.10

"Failure of rates to keep pace by thirteen cents.

"But grant an advance in traffic and the result may well be the other way."—CARL C. PLEHN.

"I think a decline decidedly. This does not mean that an increase in nominal rates would be necessary, for increased business might overcome the difference. I am in sympathy with Mr. Brown, of the New York Central, and believe that his position is fair and reasonable and in the long run the best for shipper, consumer and the Nation as a whole."—JESSE E. POPE.

"Reduction of nearly twenty-five per cent interest."—H. H. POWERS.

"The comparison would indicate a reduction. This reduction may be equitable or inequitable, according to changes of costs of transportation due, and other factors."—L. G. POWERS.

"The answer depends on other factors not given."—LAWSON PURDY.

"Improvements in machinery cause a less proportion of labor to service now than formerly and the depreciation in value of road and especially of equipment call for less capital. Hence the question is not a fair one."—H. W. QUAINANCE.

"This would mean a decrease in the real railway charges since 1897."—CHARLES LEE RAPER.

"A reduction. All the above argues for an increase in rates, for pooling of earnings, for combination of railways into larger systems; but it does not argue against a tamed-down governmental supervision. I believe the people are justified in requiring the railroads to keep up more detailed accounting systems, to give fuller reports, all of the same uniform arrangement, and to be more honest with each other. As a stockholder in several systems, I welcome such things. I know better where I 'am at'; but perhaps it is not too much to say that the public ought to pay for more information with more cash. The general feeling among the common people is that rates are none too high, but have been partial or discriminating. There is growing up a pretty general feeling that the railroads are sinned against and sinning, and that both must diminish, even at considerable cost."—WALTER T. RAY.

"Real railway rates, granting this postulate, would doubtless show a decrease."—GARDNER RICHARDSON.

"A reduction, saving, however, this reservation: that if the interest charges of the railways had become relatively less in the interval, or if important economies were, meanwhile, effected, as, for instance, by improvements in business methods or mechanical appliances, or through a heightened ratio of ton-mileage to trackage operated—then such factors should be taken into the account in ascertaining the extent of the reduction, or in determining whether or not a virtual reduction was effected by the given alterations in the freight rates and the related prices."—PHILIP A. ROBINSON.

"I don't like this way of putting it. In stage coach days, perhaps, half the prices currently paid for commodi-

ties were barely sufficient to remunerate the shipper. With every improvement since transportation charges have been lowered and properly so. 'Real railway rates' are not a fixed percentage of the prices of commodities carried. If you ask if under these circumstances the railways are fairly open to criticism for advancing their rates, I should say, 'No,' unless they were making very large profits before, they have shown great moderation in increasing their charges only one-tenth when their costs have risen, according to your statement, more than one-third."—HENRY R. SEAGER.

"Granting what is assumed in this question, I would say that the value which the railroad receives for a given service is less. This, it seems to me, would warrant no conclusion, however, as to the reasonableness or unreasonableness of railway rates, since other matters would have to be considered."—J. ALLEN SMITH.

"This is a question in arithmetic, not in political economy."—N. I. STONE.

"A reduction but not necessarily more than other changes warrant; such as increased numbers of cars per train and increased services in relation to fixed charges."—GEORGE S. SUMNER.

"A reduction."—FRANK J. SYMMES.

"In effect it would show a reduction whereas the cost of providing the service had risen thirty-five per cent, the charge for the service would have been increased to the public only ten per cent.

"One question you do not ask and one kind of information of importance here you have omitted. With increase of population and business, the amount of traffic

for the railroads must have greatly increased since 1897. It occurs to me that in this the railroads should have found considerable compensation for increased cost of providing the service rendered. Still, this compensation might not more than offset the difference above allowed, in that a ten per cent raise in charge for service is set forth against a thirty-five per cent rise in cost of providing the same."—J. A. TILLINGHAST.

"The meaning of the question is not clear, as is shown by my answer to the first question. Therefore, I cannot answer it."—EDSON NEWTON TUCKEY.

"Reduction, of course. Q. E. D."—E. B. WALLER.

I.10

"It would show a reduction in the proportion of $1.35 = .815$ by 18.5 per cent.

"I think, however, that in reality the reduction has not been so great as this, and that if we offset the probably too high rates in 1897 and the improvements and economies since effected, the rates are not yet seriously too low. But they may become so if the rise of general prices continues, and then a gradual raising of rates would be justifiable. The difficulty of raising railway rates is a reason why railway managers should set themselves in opposition to all measures that tend to increase the depreciation of the money standard, such as enlarging the facilities for the banks to put out more bank notes. A period of rising prices due to augmentation of the supply of metallic money (gold) is a proper period for diminishing the supply of credit currency."—C. M. WALSH.

"A reduction. The principle is the same and produces like results whether applied to an individual or a body corporate."—A. J. WARNER.

"This may be solved by the ancient rule of three, and most high school boys in the first grade can do it as well possibly better than I, hence I will not make the attempt."—D. C. WESTENHAVER.

"'Real' railway rates (using under protest Mr. Merritt's distinction) have probably fallen since 1897. They certainly have on your assumption, which is probably substantially correct. *But* two further questions at once follow, though you do not include them here. 1. Are the rates ton-mile rates? If so, much finite analysis is required for safe reasoning. If Mr. Merritt's 7.80 mill rate came from a total that included a relatively great amount of low-grade long haul freight, it may have been a high 'real' rate, using the word 'real' now to indicate another very important and valid distinction. The cost of hauling this would clearly have been relatively low, and the rate high in proportion to energy expended. 2. Has the generally increased business of railways in the last ten years made what was earlier a low rate into a high one. The railways cannot set themselves up as a peculiar institution in the matter of fixing specific rates (what the traffic will bear, a principle to which I assent) and then deny their corresponding peculiarity when it is a question of general level of rates.

"In conclusion, I should like to dissent from the position of the *New York Evening Post* and certain other imperfectly educated economists in their assumption that increasing rates may not be economically wise, from the point of view of the railways—if the dear people will not protest too much. It seems to me that some of these editorial friends studied their economics before the theory of monopoly had been developed, and when it was too hastily assumed that the general principles valid for intensely competitive industries were universally valid. It seems to me absolutely unescapable that an increased rate

may *not curtail* even a depression volume of traffic sufficiently to prevent an increase of net earnings.

"As I said at the beginning, these words are not carefully weighed, but written *currente calamo*; but the ideas that they very roughly express have been long in my mind and often expressed. Moreover, there are many other points which you do not touch upon that seem to me so intimately involved with these that your failure to include them will defeat your purpose, assuming as I do that your purpose is honest, unbiased inquiry."—GEORGE RAY WICKER.

"Striking out the word *real* above, since it is of doubtful significance, the cost of transportation to the shipper has declined provided the values of commodities in general have changed in the ratio of 1.00 to 1.35."—M. S. WILDMAN.

"Unquestionably a reduction. What's the use of going to school and being a goose."—A. B. WOODFORD.

"A reduction. However, we must take into consideration the volume of freight to-day as compared with 1897 before we conclude that rates are too low to-day because they are really lower than they were in 1897 when we admit that they were not too high."—LESTER W. ZARTMAN.

ANALYSIS OF ANSWERS.

BY THE EDITOR OF THE RAILWAY WORLD.

The initial impression likely to be left by a perusal of the foregoing pages undoubtedly gives full recognition to the wide divergencies of opinion which they disclose. Extensive as these differences at first appear, it is believed that a closer study will reveal the fact that, excluding a few answers which exhibit a bias so evident as plainly to deprive them of all value, the differences are superficial rather than actual. Thus, the form of the first question unquestionably suggested distinctions of terminology which seemed of such considerable importance to some of those whose answers are published as to warrant more or less discussion of definitions. Those who answered the first question with an unqualified affirmative were not, it is to be presumed, unaware of these distinctions but, it is probable, that in spite of these distinctions, the question appeared to them to express a vital principle with sufficient clearness to warrant a categorical reply. As to the principle involved there is plainly no difference between the unqualified affirmative of President Andrews, Professor Bullock, Dr. Crowell, Professor Irving Fisher, Professor Meeker, Professor Plehn, Dr. LeGrand Powers and the responses of Dr. Adams, Professor Daniels, Mr. Newcomb and Professor Seager, although the last four named are typical of those who considered some discussion of terminology expedient. These differences in no way detract from the value of this compilation.

Excluding from consideration such merely formal or superficial differences as those just discussed the conclusions seemingly warranted by underlying harmonies to

be found in the opinions are clear and definite. All of those whose answers to the first question are deserving of weight are plainly of the opinion that the value of money fluctuates from time to time and varies as between different places so that comparisons of wages, prices or railway rates are likely to be deceptive unless these differences in purchasing power are examined and made a part of the subject matter compared. This conclusion is so obviously in accord with common sense and with the weight of economic authority from Adam Smith to the present day as to need no further argument.

Equally clear is it that the conclusions of those best qualified to throw light upon the second question are that the distinctions between "nominal" or money wages, prices and railway rates, on the one hand, and "real" or purchasing power wages, prices or railway rates, upon the other hand, are of such high intrinsic importance that neglect to take them fully into account destroys all basis for comparisons. As a matter of fact this conclusion was made inevitably necessary by the answers to the first question.

The third question carried the inquiry a step further by asking whether the American dollar has depreciated since 1897. Here, too, whatever difference appears is one of definition rather than of reality. All seem to agree that there has been a notable rise in prices and wages and nearly all realize that appreciation of commodities and depreciation of standard money are synonymous terms. The very few who regard value as a quality persisting as invariably in the standard dollar (that is to say, in 23.22 grains of fine gold) as the quality of length persists and remains constant in the yard stick or that of weight in the standard pound avoirdupois have not failed to find representation but the "it is an insult to ordinary intelligence to suggest that the dollar could depreciate" of Dr. Quaintance is only typical of a state of mind which re-

jects commonly accepted definitions. It is outweighed by the "Yes" of Professor Dewey, Professor Irving Fisher, Professor Johnson, Professor Meeker, Dr. Mixter, Mr. Purdy, Professor Plehn, Professor Seager and Dr. Emerick; by the "Undoubtedly" of Professor Bullock, Dr. Cummings, Professor Daniels, Professor Garrison and the "Most certainly" of President Andrews. One could not wish higher sanction for an economic proposition than its complete acceptance by these distinguished students and the others who agree with them. But even Dr. Quaintance did not mean to assert that the purchasing power of the dollar has not declined. To do so would be to contradict the common experience of a decade, the observation of every American citizen, and official and private statistics of conceded accuracy. What he really meant was to deny that the value of the dollar is its ratio in exchange with other commodities and to assert that it is a permanent quality attaching to the quantity of metal made the unit of prices, just as length or breadth or weight or hardness attach to the same quantity of the same metal. This would do very well if the terms "price," "value," "depreciation," et cetera, had acquired no real and definite meaning but to seek to give them new meanings now is a fruitless task which, if successful, would only lead to confusion similar to that which would follow general interchanges of the names and significance of the Arabic numerals.

It was to have been expected that the fourth question, the first to ask for a quantitative answer, should lead to greater disagreement. All agree that the dollar now has diminished purchasing power but the extent of the diminution or depreciation, naturally appears differently to observers of varying outlook. The effort to reconcile the divergent estimates would be useless but it is fairly accurate to say that the best opinion seems to unite upon a depreciation of from twenty-five to thirty per cent. This

is probably sufficiently accurate for all general purposes.

Agreement is also evident upon the substantial conclusion that those wages, prices or rates which have not been adjusted to the diminished value of the dollar are really lower by reason of such lack of adjustment. "Depreciation of real income" is an expressive term applied to this condition by Dr. Willard C. Fisher while Dr. H. H. Powers responds to the effect that fixed prices, wages and legal rates which cannot be modified except with difficulty have generally been lowered. The answers to this, the fifth question, are not easily summarized but they all support the conclusion that injustice and hardship attach to absence of compensatory adjustment to meet the changed value of standard money.

Those who answer the sixth question agree, with few exceptions, upon the statement that the general level of railway charges was not too high in 1897. Some have regarded it as necessary to modify this conclusion by alluding to complaints alleging injustice in the relative charges for different services but this, of course, introduces a question of another sort which has no possible relation to the present inquiry. The sole value of this question, as a step in the inquiry now in hand, is to establish whether or not the railway charges of 1897 constitute a fair basis of comparison. That they are generally accepted as a fair basis for that purpose is plainly demonstrated by these answers.

The seventh question was regarded by some as merely a simple example of the "rule of three" and by others as requiring considerable analysis and not admitting of a concise and unequivocal answer. The most interesting suggestions are based upon a rather wide departure from the inquiry and introduce a qualification which, though really unsound, may appeal to many readers. This is, perhaps, as well illustrated by the answer of Dr. Willard C. Fisher, as any other. This answer seems to imply that

if the economic pressure due to a decline in rates brought about by a depreciation of the medium of exchange has compelled economies sufficient to permit the profitable continuance of the industry the railways have no right to ask for higher returns. This is equivalent to asserting the right of the traveling and shipping public to confiscate all the economies of the most efficient management. How long this principle could be carried out in practice without reducing all railway management to a dead level of inefficiency and eliminating all chance or hope of further progress in methods or management constitutes an interesting speculative problem. That it would produce such a result sooner or later is, however, quite beyond question. No such condition as that suggested is now under consideration. The subtle operation of monetary depreciation has reduced railway rates to the unprofitable point. "The forces bringing about the rise of prices will necessarily lead to a rise of railroad rates—or to railroad bankruptcy," said Professor Joseph French Johnson, one of the ablest of American economists, in response to the second question. "It will first check improvements and ultimately bankrupt the roads," writes Dr. Mixter, treating of a continuance of present conditions and tendencies, and "failure to take into account this distinction may bankrupt a road, stop dividends and thus cause financial disturbance; or, in case dividends are continued, needed improvements or extensions may be stopped," declares Professor Pope. These are the real, actual, controlling conditions. They are the conditions which must determine the policy of this newspaper in this crisis and ought to determine the attitude of every intelligent American, whatever his personal interest or wherever that interest might otherwise lead.

The American dollar has lost from twenty-five to thirty per cent of its purchasing power since 1897; it is worth that much less in the treasury of any railway to-day than

it was ten years ago. Railway rates, expressed in dollars and cents are about where they were in 1897 or slightly lower; therefore, such rates have gone down with the purchasing power of the money in which they are paid. The employees of railways are not generally overpaid, the prices of railway materials and supplies cannot be substantially reduced; railway improvements and extensions costing immense aggregates are demanded by the public and ought to be supplied. These facts, amply supported by the results of the inquiry here submitted, lead unmistakably to the conclusion that the schedules of railway freight rates must be revised; that there must be some compensatory adjustment to make up, in part at least, for the extensive fall in the value of the American dollar.

EDWARD G. WARD.

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